State of Vermont

State Medicaid Health Information Technology Plan (SMHP)

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Division of Health Care Reform,
Department of Vermont Health Access,
Vermont Agency of Human Services

VERMONT

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Preface to the Current Draft

Much has happened in the state of Vermont in the few months since the initial draft was submitted at the end of December, 2010, and now. Significant planning progress has been made in several HIT-related areas, including the selection of vendors and the completion of contract negotiations for our Core Components (SOA) architecture; the receipt of proposals for our Medicaid Enterprise System (MMIS replacement); the development of a project charter for development of a Provider Directory; the anticipated delivery of the initial phases of the MAPIR project to accommodate our EHR incentive payment program; and the receipt of an Innovation Grant for an Insurance Exchange for which Vermont is a collaborating state with the other New England states.

Most significantly, Vermont has received an anticipated Health Reform study, commissioned by the legislature and completed by Dr. William C. Hsiao, PhD, FSA, K.T. Li Professor of Economics, Harvard University School of Public Health. With a team of specialists including Steven Kappel, MPA, Principal, Policy Integrity, LLC and Jonathan Gruber, PhD, Professor of Economics, MIT, Dr. Hsiao provided the legislature with three options and a preferred recommendation for how Vermont could move to a Single Payer System. The initial steps along this path are currently reflected in legislation being considered for passage in the Vermont legislature. This Bill (H.202), emerged from the House Health Care committee after nearly two months of testimony and hearings, went through two extensive days of floor debate, and has passed to the Senate for its review.

The policy directions implied in the current bill (which are not expected to change substantially in the Senate) will have significant impact on Vermont's planning for an Insurance Exchange, for an Eligibility System, and for the potential expansion of existing and planned systems, including MES, to support this reform. We feel fortunate that the Core Component work is underway and can support the kind of change envisioned in the House Bill. Similarly, the architectural underpinnings of the MES requirements provide sufficient flexibility to be a viable consideration for application to Insurance reform.

Elsewhere in the state, the Blueprint for Health continues to show measureable progress as reflected in a recent annual report[1]. The Vermont Information Technology Leaders recent annual report[2] reflects the progress of the state's HIE and Regional Exchange Center. A CHIPRA grant has funded work now underway to score pediatric practices against NCQA standards for specific conditions, and this work is being coordinated with the introduction of these practices into the HIE. We are working more closely with the Mental Health / Behavioral Health / Substance Abuse programs to include them more directly into HCR/HIT initiatives.

The amount and pace of activity, in fact, has caused us to take stock of our capacity to manage and align these efforts to insure effective outcomes and to sequence the work so

[1] http://hcr.vermont.gov/sites/hcr/files/final_annual_report_01_26_11.pdf
[2] http://hcr.vermont.gov/sites/hcr/files/VITL_2011_Progress_Report_0.pdf

as to accommodate the interdependencies that are present. Our response to this capacity issue is two-fold: we are seeking a Project and Operational Portfolio Management contract to address issues of coordination and staffing requirements development; and we are seeking the development of a 5-6 year roadmap for the portfolio. Both of these efforts will not be limited to HIT related specifically to Health Care Reform, but must of necessity be expanded to include the Agency of Human Services which has other loosely related projects and systems and is a source for staffing much of this cross-cutting work. Further, some of the work in the portfolio extends to the state level, involving the Department of Information and Innovation, which is within the separate Agency of Administration.

All of this activity calls for expanded comments in the SMHP, and a future iteration will do just that. For now we are anxious to arrive at an approved SMHP as a milestone supporting the implementation of our EHR Incentive Payment program, fundamental to the ARRA/HITECH goals of promoting Health Care Reform while stimulating the economy. To that end, this update to the Draft version:

- Incorporates responses to the set of comments received from CMS related to the first version of the draft SMHP
- Adds a Table of Contents and a Table of Figures, Tables, and Diagrams
- Updates the Staffing table to reflect changes in our understanding of staffing and resource needs
- Makes several editorial fixes, mostly minor grammatical changes
- Provides several updated diagrams giving a visual depiction of the contemplated To-Be and an understanding of the systems themes related to HCR, HIT, the Agency systems, and the Agency infrastructure.

We remain enthused, committed, and dedicated to maintaining a fast pace for HIT-assisted Health Care Reform in Vermont.

Preface / Introduction

While the formal purpose of the State Medicaid HIT Plan (SMHP) is to describe the State initiatives relative to implementing Section 4201 of the American Recovery and Reinvestment Act (ARRA), Vermont's integration of broad health reform initiatives within Medicaid provide the SMHP with an important, perhaps uniquely among the states, harmonized perspective on HIT and health care system and coverage reform.

ARRA and its HITECH Act subsection provide a historically substantive and expansive policy and financial framework for advancement of Health Information Technology (HIT) and Health Information Exchange (HIE). In Vermont, where HIT and HIE have been embedded in state health care reform initiatives since passage of the state's landmark 2006 legislation, HITECH was greeted as validation of State policy and immediately embraced as a vehicle for accelerating change.

The overarching goal – digitization of the health care and human services information ecospheres – is not about technology for its own sake; it is to improve safety, quality, integration, and performance, to improve care and coordination, and ultimately, to transform the health care and human services delivery systems.

Vermont's vision is to operate a system of care and services where fragmentation is a "Never Event." Just as performing a surgical procedure on the wrong limb should never happen, a hospital discharge or other transition event that leads to an inappropriate readmission should never happen in a high functioning, high quality system.

One of the leading causes of fragmentation of care and lack of coordination is poor or incomplete communication. HIT and HIE, when effectively deployed and utilized, provide the means for comprehensive communication of information across the continuum of care and services.

The challenge Vermont has embraced is to build a modern, comprehensive communication and information infrastructure across the domains of health care and human services, taking full advantage of opportunities provided under ARRA and leveraging other more traditional state and federal resources to undertake transition from the current "as is" environment to the envisioned "to be" state in a remarkably short period of time.

As detailed in the pages that follow and in the *Vermont Health Information Technology Plan* –approved last October by the Office of the National Coordinator (ONC) – Vermont is articulating an aggressive plan to move from a fragmented system with disparate, disconnected and/or non-existent systems to a fully integrated system. Vermont envisions a system that weaves together health care delivery sites and professionals, public health, human services staff, programs and support, mental health and substance abuse services,

home health, and long term care services and institutions into a cohesive, comprehensive, interconnected whole designed to more effectively serve the citizens of Vermont.

Significantly, Medicaid is at the center of, and is driving, many of these changes. However, it is critical to note that this transformed system is designed to support an infrastructure for all Vermonters, not only those who happen to be on public programs at a given moment in time. Hence, the Vermont SMHP reflects the implementation of the incentive program for Eligible Providers' and Eligible Hospitals' adoption, implementation, upgrade, and meaningful use of Electronic Health Records (EHR) and other HIT, but it also reflects larger systems changes both inside state government and in community settings across the state.

The Department of Vermont Health Access (DVHA) – home of Vermont Medicaid – includes the Division of Health Care Reform, which has responsibility to provide oversight and coordination across state government, and with other public and private partners, to foster collaboration, inclusiveness, consistency, and effectiveness in health care reform. So in a very real sense, Medicaid leads state health reform initiatives.

The Division is also the state lead for Health Information Technology policy, planning and oversight. As such, it is both the recipient of the ONC Cooperative Agreement for HIE and has responsibility for development of the SMHP. In addition, the Vermont Blueprint for Health, an integrated approach to multi-insurer supported Advanced Primary Care Practice medical homes, community health teams, and payment reforms, is located at DVHA. In 2010, the legislature created a Director of Payment Reform position which also sits at Medicaid, and which is focused on broad system reforms to payment structures and incentives led by Medicaid but including multiple commercial payers (and potentially, Medicare).

These combined responsibilities provide Vermont with a powerful engine for delivery system change, as well as creating a focused perspective for managing the comprehensive IT and other systems changes being led by the Department. Many of these system changes affect the state Agency of Human Services as a whole, and indeed affect many private and community organizations. Accordingly and appropriately, the "to be" Agency IT design architecture reflects a Service Oriented Architecture (SOA) enterprise approach to systems' development, integration, and efficiency.

With passage of the Affordable Care Act (ACA) and the need for the development of Health Insurance Exchange (HIX) infrastructure in states not interested in defaulting to a federal HIX, Vermont has identified an additional opportunity to integrate development of the insurance exchange infrastructure with eligibility and enrollment systems for public benefit programs. Vermont was already launched on an effort to modernize that process for Medicaid and other state programs but has now undertaken initial planning steps to pair public and private insurance enrollment infrastructure, utilizing the SOA components and principles.

The breadth and depth of these systems changes is, from one perspective, daunting. At the same time, given the scale of Vermont, the opportunity to implement changes in multiple dimensions simultaneously will enable the state to transform from the "as is" to the "to be" environment more rapidly than a less integrated approach.

Specifically, Vermont is undertaking a robust combination of health reform, HIT, and IT initiatives:

- build out of the statewide HIE network to provide connectivity for clinical and financial data transfer, not just for Eligible Providers and Eligible Hospitals, but for all Medicaid providers – including Home Health, Mental Health/Behavioral Health/Substance Abuse Providers, and Long Term Care – to ensure comprehensive clinical messaging and electronic claims processing across the continuum of care;
- implementation of core components of SOA infrastructure to support the Agency of Human Services and its partners;
- re-procurement of the Medicaid Management Information System (MMIS) as a more comprehensive Medicaid Enterprise System (MES),
- statewide outreach to and support for EHR adoption, implementation, upgrade and meaningful use, including close collaboration of Medicaid and the ONC-funded Regional Extension Center (REC);
- development and implementation of the MAPIR (Medical Assistance Provider Incentive Repository) provider portal in collaboration with other states to support Eligible Provider/Eligible Hospital enrollment, attestation, and audit trail connecting the CMS National Registration & Attestation System (NLR) and state MMIS;
- statewide expansion of the Blueprint for Health medical home / community health team / multi-insurer payment reform model that includes the build out of a statewide clinical data repository, decision support, and clinical messaging system integrated with HIE and EHR systems to support both Meaningful Use and implementation and evaluation of delivery system reforms;
- development, implementation, testing, and production environment roll-out for Immunization Registry and other public health reporting functions through the HIE;
- deployment of the Blue Button through the Blueprint's clinical data repository to enable downloads for Personal Health Records;
- VIEWS (Vermont Integrated Eligibility Workflow System) for modernization and upgrade of the Agency's eligibility and enrollment systems, including development of capacity for those systems to support a state Health Insurance Exchange (HIX) as envisioned by the Affordable Care Act;
- expansion of CSME (Central Source for Measurement and Evaluation), the Agency wide data warehouse to support Medicaid and other Agency program operations, reporting, evaluation, and planning;
- integration of Children's and Family services across categorical programs and departments to ensure a child- and family-centered focus to improve communication, reduce bureaucratic overlap and confusion, and eliminate program and resource redundancies; and

- the development of broad based, system level payment reform pilot strategies (such as Accountable Care Organizations) to expand delivery system payment reforms to the full continuum of care.

All of this fits under the framework of Vermont's unique Global Commitment to Health 1115 waiver and its public entity Managed Care Organization model which provides additional opportunity for leveraging of resources. Such expansive change might be impossible to achieve in a larger state in the timeframe contemplated by Vermont, but both the state's scale and the work done on health reform and development of many of the initiatives listed above over the preceding five years make Vermont an ideal laboratory for change.

In the following pages, the SMHP addresses both the specific framework outlined in CMS guidance and Vermont's expansive HIT-HIE and IT systems planning. Before addressing the detail, however, several additional introductory perspectives on the over-arching whole to provide context include:

- A diagram of project component time lines and interdependencies,
- An overview of SMHP related staffing, and
- A proposed budget schema and relationship to HIT-IAPD(s), MMIS-IAPD(s), Eligibility-IAPD, and CCIIO funding.

It is also important to acknowledge the iterative planning and implementation underway in Vermont and represented in this document. This is a dynamic process, and it is anticipated that this document will be updated multiple times throughout the coming years.

What follows is a beginning framework for extended conversation both within the state and with Vermont's federal partners to achieve:

- Support for implementation of the Section 4201 Provider Incentives Program,
- Integration of comprehensive Health Information Exchange for all Medicaid providers,
- Implementation of the Medicaid Enterprise Solution (MES) in an Agency-wide Service Oriented Architecture environment,
- Implementation of an integrated Medicaid Eligibility Determination and Enrollment System with a Health Insurance Benefit Exchange,
- Upgrade and modernization of an Agency-wide Data Warehouse, and
- Transformative health care delivery system reforms through the Blueprint for Health and other state reform initiatives.

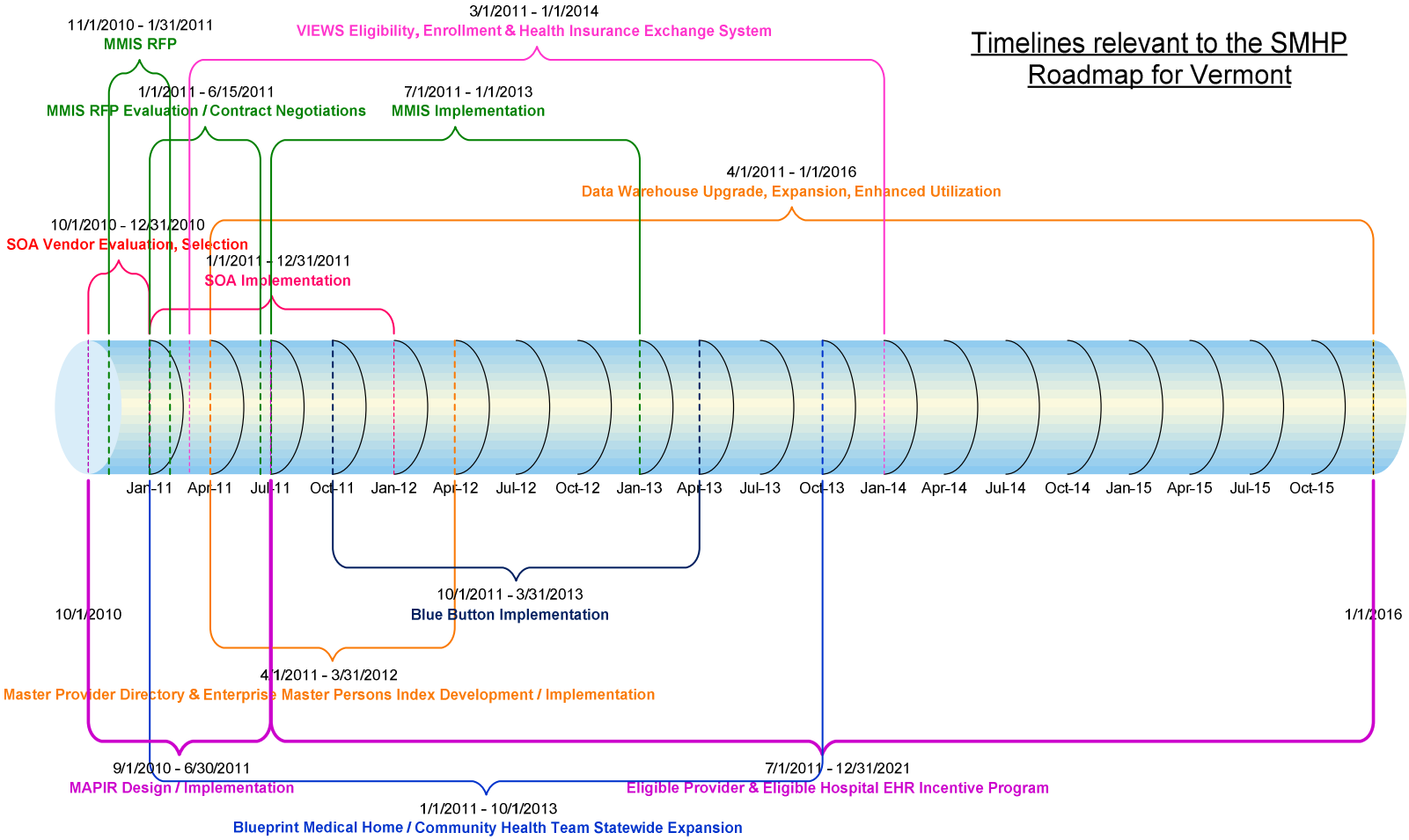

Figure 1: SMHP-related Vermont Timeline

Staffing supporting the SMHP implementation:

The overall project will be managed by the Division of Health Care Reform at DVHA, which also manages the ONC State HIE Cooperative Agreement, but it will include substantial collaboration with Agency Central Office IT leadership and personnel. The following staff will be involved in SMHP implementation (*and where applicable, source of position funding is noted*).

Commissioner of DVHA and Health Care Reform: Susan Besio leads the state Medicaid agency and also has responsibility for the overall coordination and integration of state and federal health care reform initiatives.

Health Care Reform Division Director & State HIT Coordinator: Hunt Blair is the project sponsor and has responsibility for overall coordination and integration of health reform delivery system transformation initiatives, including HIT-HIE. (*Position partially funded by ONC HIE Cooperative Agreement Section and by 4201 HIT PAPD; to be continued under HIT IAPD*)

HIT-HCR Project Manager: Terry Bequette serves in the role of SMHP Project Coordinator and will support implementation of the EHR Road Map focused on full integration of Agency-wide enterprise integration of Medicaid programs, providers, and beneficiaries with state HIE infrastructure. (*Position funded under Section 4201 HIT PAPD; to be continued under HIT IAPD*)

Financial/Grants Management Specialist: Sawyer Joecks is stationed in the DVHA Business Office; he supports planning and the financial processes for provider incentive payments, attestations, and audits, and lead on financial management and reporting for project. (*Position funded under Section 4201 HIT PAPD; to be continued under HIT IAPD*)

The following positions will be requested in the HIT IAPD to support the implementation phase of work.

HIT-HIE Privacy Policy Specialist: a 1 FTE limited service position to staff the HIT-HIE Privacy & Security Work Group and to support planning and policy development related to intra- and inter-state exchange of health information and other data agreements. *(Position to be filled upon receipt of CMS approval and funding.)*

HIT-HIE Security Specialist: a 1 FTE limited service position to support planning and implementation related to technical architecture and policy security issues. *(Position to be filled upon receipt of CMS approval and funding.)*

Provider Relations Specialist: a 1 FTE limited service position to support implementation of the EHR Road Map focused on outreach to and communication with Medicaid providers who qualify for CMS HIT incentive payments. *(Position to be filled upon receipt of CMS approval and funding.)*

EHR Incentive Program Integrity Specialist: a 1 FTE limited service position to support audit oversight of the Medicaid EHR incentive payments and coordination of audit contractors doing on-site EHR evaluations. *(Position to be filled upon receipt of CMS approval and funding.)*

Senior Business Analyst: a 1 FTE limited service position to support implementation of information systems integration across Blueprint, HIT-HIE systems, CMS' NR&A System and other electronic data interfaces in support of the incentive payment program, MMIS & the Agency enterprise architecture. *(Position to be filled upon receipt of CMS approval and funding.)*

Administrative Support Coordinator: a 1 FTE limited service business office staff position to support the additional administrative load associated with implementation and management of the SMHP. *(Position to be filled upon receipt of CMS approval and funding.)*

Central Source for Measurement and Evaluation (CSME) Data Warehouse Project Manager: a 1 FTE limited service position to support the modernization and expansion of the Agency data warehouse. *(Position to be filled upon receipt of CMS approval and funding.)*

Health Insurance Exchange (HIX) Technical Infrastructure Project Manager: 1 FTE limited service position to support the planning and development of the insurance exchange in coordination with the public benefits eligibility and enrollment infrastructure. *(Position to be filled upon receipt of CMS/HHS approval and funding.)*

Additionally, the following positions are currently under recruitment to support the Agency SOA Core Components Development:

Information Technology Specialist III: 1 FTE limited service position to support implementation of the Enterprise Service Bus.

Information Technology Specialist III: 1 FTE limited service position to support implementation of the Identity Management and Enterprise Master Persons Index components.

System Developer III: 1 FTE limited service position to develop Rules Engine applications.

System Developer III: 1 FTE limited service position to develop Work Flow applications.

Information Technology Manager I: 1 FTE limited service position to provide oversight of implementation and operation of SOA Core Components.

Project Manager: 1 FTE limited service position to provide management of the VIEWS (Vermont Integrated Eligibility Workflow System) procurement and replacement of the legacy ACCESS eligibility system.

Funding Source Matrix

The table below – provided for discussion purposes – suggests possible shared cost allocation of projects included in the SMHP. As noted above, the State recognizes this is the beginning of an on-going dialogue with CMS and others about cost allocations.

Project Area	CMS: Sec. 4201	CMS: MMIS	CMS: Eligibility System	CCIIO: Insurance Exchange	ONC Sec. 3013	ONC Sec. 3012	State HIT Fund	State GF / Cap
EHR Incentive Program Administration	X						X	
EHR Expansion & M.U. Preparation	X					X	X	
MAPIR	X	X					X	
CSME	X	X					X	X
HIE Expansion	X	X			X		X	
SOA	X	X	X	X			X	X
New MMIS Procurement		X						X
VIEWS/HIX		X	X	X				X

Table 1: Funding Source Matrix

HIX – lawyer, business analyst for program requirements

SECTION A: The State's "As-Is" HIT Landscape

I. The State's "As-Is" HIT Landscape:

In this section of the SMHP we describe Vermont's As-Is Landscape as it relates to Healthcare Reform (HCR), particularly Health Information Technology (HIT) and Health Information Exchanges (HIE). Topics included in this section are:

1. Electronic Health Record (EHR) technology adoption rates;
2. The role of Broadband in Vermont's HIT/E efforts;
3. Federally-Qualified Health Center (FQHC) networks;
4. Status of Veterans Administration (VA) clinical facilities;
5. Identification of stakeholders engaged in existing HIT/E activities;
6. HIT/E relationships with other entities;
7. Governance structure of Vermont's existing HIE;
8. Role of MMIS in our current HIT/E environment;
9. Current activities underway to plan and facilitate HIE and EHR adoption;
10. Relationship of the State of Vermont's Medicaid agency to the State HIT Coordinator;
11. Any potential impact of state laws or regulations on the implementation of the EHRIP;
12. HIT activities that cross state borders;
13. Current interoperability status of the State Immunization (IZ) Registry and Public Health Surveillance reporting database; and
14. Other HIT-related grants.

These items are as specified in the SMHP template provided by CMS. However before providing the specific responses to these topics, it is important to understand the larger context of HCR and HIT/E in Vermont. Establishing that context requires a description of Vermont's Blueprint for Health program (the Blueprint), and interactions with the state's existing and expanding Vermont Health Information Exchange (VHIE) network.

Eligible health care providers *are not required* to participate in the Blueprint in order to obtain assistance under Section 4201 or to meet Meaningful Use, but the State's approach to supporting HIT is embedded in its broader health reform initiatives and the general response from the provider community is that the Blueprint will help enable Eligible Providers to meet Meaningful Use requirements more easily. The Vermont Environment as it relates to HIT/E is described in the latest version of the *Vermont HIT Plan*, dated October 26, 2010.

The Vermont Environment

Vermont is recognized as a national leader in the alignment and integration of Health Information Technology (HIT), Health Information Exchange (HIE), and reform of the health care delivery system. The state stands ready to expand HIT adoption and HIE connectivity statewide, building on a six year base of planning, consensus building, governance refinement, and creation and early implementation of a standards-based technical architecture.

Funding and authorization for the Vermont Information Technology Leaders, Inc. (VITL), a 501c3 not-for-profit corporation charged with developing statewide HIE, was included in the 2005 Budget Act and appropriations have continued in each subsequent annual state budget. Passage of the HITECH Act and other components of the American Recovery & Reinvestment Act (ARRA) supporting investments in HIT and HIE, as well as additional federal health reforms enacted in the

Affordable Care Act (ACA), position Vermont to build on its work to date and to dramatically expand the scope, scale, and speed of the state's HIT-HIE and health reform implementation.

Health information exchange and technology are a consistent focus of Vermont health policy attention, but always in the broader context of enabling transformative delivery system change. Because of that systems approach, meaningful use of HIT has been built into Vermont's vision from the outset. For instance, the Vermont HIE (VHIE) network operated by VITL, is a critical conduit for the Vermont Blueprint for Health IT infrastructure, enabling both personalized and population-based care coordination and management for the Blueprint's integrated primary care medical homes and community health teams.

The current version of the *Vermont HIT Plan* (VHITP) is the continuation of a roadmap and a vision resulting from six year public/private collaboration. That conversation began with a 2004 HIT Summit convened by the state hospital association that led to the 2005 legislation that charged the group that became VITL with development of the *Vermont Health Information Technology Plan* (VHITP), starting an extended dialogue and consensus building process that was well underway when Vermont's landmark health reform legislation passed in 2006. The scope of the VHITP then expanded accordingly to incorporate the state's comprehensive health reform vision.

Delivered in July 2007 after a series of 31 public meetings to engage stakeholders, the original VHITP detailed the health care environment in Vermont and laid out key objectives for the use of health information technology in supporting health care reform. While much has transpired in the time since the plan was originally developed, the key foundational elements have remained remarkably stable and resilient, including five core values:

I. **Vermonters** will be confident that their health care information is secure and private and accessed appropriately.

II. Health information technology will improve the care Vermonters receive by making health information available where and when it is needed.

III. Shared health care data that provides a direct value to the **patient**, **provider** or **payer** is a key component of an improved health care system. Data interoperability is vital to successful sharing of data.

IV. Vermont's health care information technology infrastructure will be created using best practices and standards, and whenever possible and prudent, will leverage past investments and be fiscally responsible.

V. Stakeholders in the development and implementation of the health care technology infrastructure plan will act in a collaborative, cooperative fashion to advance steady progress towards the vision for an improved health care system.

Vermont's commitment to promoting the growth of HIT and HIE meant seeking resources beyond state appropriations. Voluntary contributions from **insurance carriers** to an EHR pilot fund administered by **VITL** in 2007 validated the demand from physician practices for financial and technical assistance to implement HIT, but the pilot's scale was too limited.

Realizing the state's ambitious goals could not be achieved without more formal, systemic investment in HIT, Vermont instituted its Health IT Fund in 2008. A fee (2/10ths of 1%) paid on all health insurance claims generates annual revenues for the state Fund which then provides grants to

support HIT and HIE. The Fund sunsets after seven years, meaning it will be available through 2015. The fund is a source of matching dollars for new federal resources, enabling Vermont to maximize opportunities coming from ARRA and HITECH. (Details on the Fund, including an FAQ, are at: http://hcr.vermont.gov/improve_quality/healthcare_IT_fund.)

Given this history and preparation, Vermont was ideally positioned for the evolution in federal HIT policy contained in ARRA. In response to the passage of the federal HITECH Act, the **Vermont legislature** clarified the roles and responsibilities for HIT policy and HIE governance in Act 61 of 2009. Responsibility for coordination and oversight of HIT-HIE planning, which had originally been delegated to VITL, now sits with the **Department of Vermont Health Access**, in its **Division of Health Care Reform**. The Department is the home of **Vermont Medicaid**, and the Division is also responsible for the State Medicaid HIT Plan (SMHP) and administration of the Medicaid provider incentive program for meaningful use of electronic health records (EHR).

This evolution of governance reflects an understanding that emerged over time and was ratified in 2009 legislation, with both private and public HIT stakeholders agreeing that policy guidance and coordination rests with the state, while operation of the state level HIE is best done outside state government. 18 V.S.A. chapter 219 § 9352 designates VITL, a private, non-profit corporation, as the exclusive statewide HIE for Vermont. The law also reserves the right for local community providers to exchange data.

The **Governor** and the **General Assembly** each appoint a representative to serve on the VITL Board, underscoring the close working relationship VITL has with state government. This collaborative approach ensures alignment of the organization's mission with state policy. VITL's Mission statement, updated in the summer of 2009, is "to collaborate with all stakeholders to expand the use of secure health information technology to improve the quality and efficiency of Vermont's health care system."

VITL's updated Vision is of "a transformed health care system where health information is secure and readily available when people need it, positioning Vermont as a national example of high quality, cost effective care," reflecting the state's comprehensive vision of HIT-powered health delivery system reform.

The scope of Vermont's HIT-HIE vision and the state environment is synchronous with the larger system reform agenda. Guiding legislation calls for a highly coordinated and integrated approach to healthcare statewide, with an emphasis on wellness, disease prevention, care coordination, and care management, with a particular focus on primary care.

Vermont's Blueprint for Health is leading this transformation through an integrated delivery model that includes **patient centered medical homes** supported by **community health teams**, and financed through a multi-insurer payment reform structure. These teams include members such as **nurse coordinators**, **social workers**, and **behavioral health counselors** who provide support and work closely with **clinicians** and **patients** at the local level. The teams also include a **public health specialist** dedicated to community assessments and implementation of targeted prevention programs.

Currently expanding from three original pilot communities to statewide implementation by July 1, 2011, the model is designed to be scalable and adaptable, from small independent practices to large hospital based practices and from rural to urban settings. The long term financial sustainability of the Blueprint model is based on reducing avoidable emergency room and acute care, reducing hospital readmissions, improving clinical transitions, and on shifting insurers' expenditures from

contracted disease management companies to local community health teams. The Blueprint forms the basis of a system of integrated, coordinated care that, with passage of the 2010 reform legislation, will extend statewide by 2013.

Cost effective care depends on health information being available when and where it is needed, so Vermont's system reforms are built on the premise of ubiquitous, multi-dimensional health information exchange. In addition to encouraging EHR adoption and HIE linkages to labs and hospitals, the Blueprint has invested in the creation of a web-based clinical registry and visit planning templates, as well as population reporting tools linked to EHR and PHR systems through the HIE.

In Act 128 of 2010, the Vermont legislature codified the developmental work conducted through the Blueprint's pilots, defining the components of medical homes, community health teams, and payment reform in statute. Act 128 also sets an ambitious expansion schedule for the Blueprint: by July 1, 2011, there shall be at least two medical homes in each of the state's 13 hospital service areas (HSA) and by October 1, 2013, the Blueprint shall expand statewide to primary care practices – including pediatric practices – to serve **every Vermonter**.

The statute also requires **hospitals**, which operate most of the **clinical laboratory services** in the state, to maintain interoperable connectivity to the HIE network as a condition in their annual budget approval process. As critical hubs of health care activity, the state's community hospitals play an essential role in supplying health information to the Blueprint practices and patients, and to the health care system as a whole. Taken together, the state's delivery system reforms and HIT-HIE policy create a supportive environment for **eligible Vermont providers** to meet the meaningful use requirements established by **ONC and CMS**.

In short, the environment for the HIT-HIE growth to be supported by ONC and CMS could not be better. Key policy decisions for advancing and expanding HIE and delivery system reform throughout the state are made. The broad brush design is complete. Funding from the State HIE Cooperative Agreement program, leveraged with the resources such as the ARRA Sec. 4201 and traditional Medicaid IT resources detailed in this plan, are enabling the state and VITL to finalize the operational design and rapidly implement statewide connectivity to the VHIE NETWORK.

VITL's support of provider EHR deployment will continue creating the end user capability to contribute to and meaningfully use information available through the HIE. Funding through the Regional HIT Extension Center (REC) Sec. 3012 Cooperative Agreement, complemented by ARRA Section 4201 funds targeting some additional supports for Medicaid providers will accelerate the deployment of EHR systems statewide.

Together, these programs will support the ongoing transformation of the health care delivery system, promote adoption for meaningful use of HIT, and expand HIE integration with state public health IT systems, public EHR portals, PHR gateways, connectivity to the Nationwide Health Information Network (NwHIN) and support for deployment of the Direct Project.

1.1 EHR Adoption Rates

1.1.1 Survey data

The 2009 Physician Survey of primary care practices concluded 20%-25% have EHRs in various stages of implementation. Since Vermont's single tertiary care center – Fletcher Allen Health Center – recently implemented their EPIC system across its hospital and owned primary care and

specialty practice network, we anticipate that the percentage has and will increase significantly in the next several years. Additionally, most of the other hospitals are in the process of upgrading their systems and offering EHR services to their employed practices. Fletcher Allen Health Care has the largest concentration of specialists in the state. Their implementation is about 50% complete with the bulk of the remaining practices specialties.

Survey data has not been completed on specialists, but based on anecdotal evidence it is believed that the same 20-25% range apply to them. We are working on a more detailed analysis by provider that we expect to complete by the 3rd quarter of 2011. Because of the high percentage of children covered by Medicaid, SCHIP, and Medicaid expansion coverage under our 1115 waiver, we anticipate all pediatric practices will qualify. (Note that in working with pediatricians, we have identified significant concerns about the applicability / usability of general practice EHRs to pediatric practices and these practices may delay adoption pending vendor modifications). We are having the "Building Bright Futures" incorporated into the Blueprint clinical registry and through a CHIPRA grant are working on alignment / modification of EHRs to support the "Building Bright Futures" developmental guidelines data dictionary.

The 2009 data reported in the Draft SMHP was a representative sample survey that included independent Primary Care and specialty practices. The EHR adoption rate was 23%. Hospital owned practices were not included. The survey itself has not been repeated. However, VITL, through their work as a REC, is now developing direct information on all eligible Vermont PCPs, The results will be available in April, 2011.Additionally, VITL is planning to conduct a survey of specialist providers later in 2011. The results of that survey will be included in subsequent iterations of the SMHP. We will consult with VITL to obtain the latest estimates of EHR adoption rates for all subsequent iterations of the SMHP.

Tracking EHR adoption by types of provider is related to and impacted by the accuracy of a Provider Directory. The Provider Directory problem precedes HITECH / ARRA, but the renewed focus on this problem as a result of HIT implementation requirements is serving as the tipping point for solving this problem. Vermont's SMA is leading a cross-agency effort (including our insurance regulators' multi-payer claims database, the Board of Medical Practices licensure list, the Office of Professional Regulation's licensure and certification lists) to create a definitive, authoritative reference directory of all Vermont clinicians. The State HIT Coordinator has begun convening meetings with home health, mental health/behavioral health, and long term care providers to develop a strategic plan for implementing HIT infrastructure with each of them.

This data is based on the 2009 Physician Survey of primary care practices. Updated data will appear in a future version of this SMHP. This survey data reflects an overall statewide characterization of EHR adoption and is not specific to just Medicaid. We have anecdotal evidence that the EHR adoption rates based on specialties is not significantly different. However, accurate counts by type of provider have not been specifically prepared as yet. The VITL REC staff is visiting each primary care practice site in the state and updating its database as visits are completed.

The follow comments are taken from Vermont's Health Information Technology Plan, dated October 26, 2010, and cover technology implementation related to

- e-Prescribing Infrastructure
- Labs
- Claims and eligibility systems
- Hospitals
- Home Health

- Mental Health/Behavioral Health/Substance Abuse providers
- Long Term Care
- Public Health
- Legislative aspects
- And related State-based academic research

E-prescribing Infrastructure:

Allscripts/Surescripts report that 93% of pharmacies in Vermont are accepting electronic prescribing and refill requests. The percent of independent pharmacies is lower than that for chain pharmacies. Currently, VITL is working with pharmacies as part of a HRSA funded project.

Percentage of prescriptions being submitted electronically – 12% (per Surescripts data)

The VITL ePrescribe Vermont program, a statewide initiative to help Vermont physicians and other prescribers use electronic prescribing technology, including access to a free, web-based ePrescibing application for Vermont health care providers.

VITL, through its ePrescribe Vermont program, has partnered with Allscripts and Medmetrics, the pharmacy benefit manager for the state Medicaid program. Medmetrics is building a formulary that will be loaded into the Allscripts eprescribing system as part of a federal grant which supports ePrescribe Vermont.

Labs:
The vast majority of laboratory tests are performed by Vermont hospitals and two major commercial labs. Currently, 50% of VT hospitals are delivering lab results using the HIE. HIE connectivity to LabCorp is being finalized for delivery of lab results. VITL is in the process of negotiating a contract with Quest Diagnostics.

The Division of Health Care Reform has obtained the full list of CLIA Certified labs from the State's Division of Licensing & Protection, and with VITL, is conducting a more detailed assessment of the state's clinical lab infrastructure. Initial indications is that the preponderance of these CLIA Certified labs serve the "internal" needs of providers and practices and are not likely to require connectivity to the HIE. As an example, results from a lab serving a Community Health Center would be entered into that organization's EHR, which will be connected to the HIE network and able to transmit structured lab results as part of a Continuity of Care Document (CCD) but the lab itself will not.

Claims and eligibility systems:
In 2009, the legislature and the Division of Health Care Reform convened a work group to examine HIT and Payment Reform. It issued a 220 page report (available online at http://hcr.vermont.gov on the Reports page) that provided an extensive look at the "as is' and "to be" states for both electronic eligibility checks and claims submissions and concluded that moving to "close to real time" claims adjudication should be deferred as a future priority. The burdens of implementing ICD-10 and 5010 and other IT priorities at commercial insures mean it will likely be several years out before evolving to the envisioned, more interactive "to be" state in which transactions would be completed in closer to real time.

Blue Cross / Blue Shield of Vermont enables electronic eligibility checks and electronic claims submissions. Vermont Medicaid is able to provide eligibility electronically and accepts electronic claims. While BCBS and Vermont Medicaid have not yet developed an electronic exchange, we are actively working with BC/BS for eligibility data sharing in an effort to improve the accuracy of third party liability and cost avoidance criteria. The Department is currently writing specifications for its new claims processing Medicaid Management Information System (MMIS) that will include the capacity to adjudicate claims electronically in close to real time for many encounters and procedures. In addition, the State is currently in procurement for a new Eligibility and Enrollment system for public benefits programs across the Agency of Human Services and is evaluating the potential for integration of the new system with a state Health Insurance Exchange that may be developed to meet requirements under the federal Affordable Care Act (ACA).

Hospitals:
Vermont's hospitals are all in the process of upgrading or replacing their HIT systems. The state's single tertiary care center began implementing a comprehensive EHR platform last year that integrates both its hospital services and its extensive network of primary care and specialist physician practices. Other hospitals have begun to implement, have selected, or are in the process of selecting new EHR systems to modernize and integrate their IT infrastructure, and while the legislature limited the growth of hospital budget expenditures for the next two years in Act 128, it specifically exempts HIT investments from those caps.

Home Health:
The statewide network of non-profit home health and hospice agencies utilize electronic reporting tools consistent with their requirements as Medicare and Medicaid providers, but those systems are currently not interoperable with other HIT systems. A strategic goal for HIE connectivity is to build out interfaces between the home health IT systems and the HIE in order to enable sharing of patient care summaries, and over time, more comprehensive data exchange.

Mental Health/Behavioral Health/Substance Abuse providers:
The state's Community Mental Health Centers (CMHCs) are currently upgrading patient management and reporting systems to true EHR capacity. While those systems have not traditionally focused on interoperability and there are important, continuing discussions related to protecting the privacy of exchange of Mental Health/Behavioral Health/Substance Abuse (MH/BH/SA) diagnoses, a strategic goal for HIE connectivity is to build out interfaces between the state's designated agency systems and the HIE in order to enable sharing of patient care summaries, and over time, more comprehensive data exchange.

In addition to the designated agencies which provide both mental health and developmental disability services, Vermont Medicaid relies on private, free-standing mental health, behavioral health, and substance abuse counselors and professionals for over 50% of its case load. While they generally do not currently utilize HIT systems, the Council representing those providers has approached the Division with an interest in establishing a common HIT infrastructure across their membership. A strategic goal for HIE connectivity is to support creation of a "thin" health record system for these providers and to build out interfaces between that and the HIE in order to enable sharing of patient care summaries, and over time, more comprehensive data exchange.

The Division of Health Care Reform recently announced HIT planning grant opportunities for both public and private MH/BH/SA agencies and providers to develop comprehensive HIE connectivity proposals.

The Vermont State Hospital (VSH), a public psychiatric hospital, does not yet have an EHR but implementing one is part of the VSH and Department of Mental Health's strategic vision to provide better coordination of care with the state's Community Mental Health Centers, community hospitals, and other mental health and medical providers. VSH, along with the CMHCs – and many Federally Qualified Health Center (FQHC) locations – has recently implemented telemedicine capacity for both clinical and administrative / distance learning applications.

The MHISSION-VT Initiative (pronounced "Mission," it stands for Mental Health/Substance Abuse Intergovernmental Service System Interactive On-Line Network for Vermont) is an HIT-powered Jail Diversion—Trauma Recovery Project. The goal of the MHISSION-VT is to apply technology as a comprehensive tool for creating an integrated, efficient, and therefore more responsive, system of care for Vermonters who suffer from major mental illness, traumatic brain injury and/or substance abuse disorders. MHISSION-VT will develop and implement a dynamic systems map and decision support tool. It will then assess the effectiveness of these tools at enhancing systems integration, promoting collaborative problem solving, and improving administrative, policy, and funding decisions and access to services within a functional system of care.

Long Term Care:
The state's nursing homes have long reported data electronically to the state for Medicaid payment and oversight purposes; however, the electronic Minimum Data Set (MDS) systems pre-date most EHR systems and have limited interoperability. Most of the state's nursing homes have not implemented EHR systems, but most if not all of them do have electronic patient management (billing) systems. A strategic goal for HIE connectivity is to build out interfaces between the nursing home IT systems and the HIE in order to enable sharing of patient care summaries, and over time, more comprehensive data exchange.

In addition, much of the state's long term care is provided in home and community based settings: in private homes, in residential care homes, and in assisted living, congregate, elder, and low income housing facilities. The home health connectivity will be an important method for linking long term care in those settings to the HIE network, but Vermont's strategic vision also includes extending HIT to home and community based settings, including the implementation of telemedicine telemetry reporting technologies and the extension of the Blueprint IT infrastructure to the full continuum of health care sites, services, and providers.

Public Health:
Vermont has a single, state health department. It is currently receiving some immunization records, syndromic surveillance, and notifiable lab results electronically, but as indicated in the Operations section of the Plan, the integration of public health data collection with the HIE is a major component of the state / HIE infrastructure build out. A recently negotiated contract between the Vermont Health Department and VITL establishes the HIE as the transport mechanism for data exchange with the state Immunization Registry, and other public health registries will be added over time. Similarly, syndromic surveillance and notifiable lab result submissions will migrate to the HIE as the state IT systems' capabilities are modernized to enable connectivity to the HIE network.

The Vermont Department of Health has received an infrastructure grant funding an innovative proposal that offers a novel opportunity to strengthen the integration between public health and Vermont's health system reform initiative, the Blueprint for Health. Vermont will implement public health best and promising practices through newly developed Public Health Prevention Teams that align with Vermont's health systems reform and will support public health system development

with a focus on building the infrastructure necessary for users of electronic health records (EHRs) to demonstrate the two-way information exchange between the providers and the public health department.

The development and support of integrated Prevention Teams will allow VDH to move in the CDC recommended direction toward policy and environmental change. The linking of the Prevention Teams with a centralized clinical data system housing information for a large percentage of the population has the potential to be matched with existing public health data. VDH proposes to combine both PH data and clinical data for each community and use to create a community profile as well as for evaluation purposes in the long-term.

The health information infrastructure to support bi-directional information flow between public health and healthcare providers, and clinical registry systems will provide data to track the rates of patients with related self management goals and engagement in these public health programs. This data will help to monitor the program impact in collaboration with community partners and stakeholders, and to inform them of the health risks and costs associated with chronic conditions. This approach, as an integrated system of health, will help to establish a sustainable infrastructure and further a community culture towards good nutrition, physical activity, tobacco cessation and alcohol and drug prevention.

The grant did provide funding for one Public Health Informatics Specialist position. We are working through the process to have the position actually created so I can begin recruiting. VDH also received funding for a second Informatics position under the Epidemiology and Laboratory Capacity for Infectious Diseases - Building and Strengthening Epidemiology, Laboratory and Health Information Systems Capacity in State and Local Health Departments. This grant is also a result of ACA funding.

Legislation

Act 128 of 2010 formally expands the Blueprint for Health to a minimum of 2 primary care medical homes in each Hospital Service Area (effectively in each county) statewide by July 1, 2011, expanding to all willing primary care provider practices by October 1, 2013. Given the close alignment of the requirements for meaningful use and medical home standards, as well as the benefits EHR systems provide to medical homes, the Division of Health Care Reform (which manages both the Blueprint and HIT initiatives) will combine project management, provider outreach, and practice support of the statewide Blueprint expansion with state implementation of the EHR provider incentive program. Participation in the Blueprint is not a prerequisite for Medicaid EHR incentive payments, but participation is expected to help support providers achieve meaningful use. The two programs compliment and help sustain each other and can be implemented in parallel to minimize disruption to practices and reinforce work flow redesign and re-engineering.

Academic Research

As a setting for population health research, Vermont is uniquely positioned due in part to the range of data resources that contain a wide array of knowledge pertaining to the population of the entire state. To this end, the Vermont Center for Clinical and Translational Science based at the University of Vermont is in the process of developing the Integrated Research Information System (IRIS) as a *comprehensive health informatics platform* that can be used to formulate and address population level inquiries.

The primary goal of IRIS is to enable powerful secondary and tertiary uses of health information, while providing appropriate privacy, security, and confidentiality mechanisms that will be crucial to account for relevant ethical, legal, and social implications. It is envisioned that studies based on the

compendium of information gathered within IRIS will enable a new paradigm for evaluating state wide initiatives, in terms of financial impact as well and health outcomes.

Data sources for IRIS will include de-identified feeds from the Blueprint clinical registry (itself populated, in part, from EHR data sent via the HIE network), the Vermont Healthcare Claims Uniform Reporting and Evaluation System (VHCURES) multi-payer claims database, and public health registries and databases.

1.2 The role of Broadband in Vermont's HIT/E efforts

Vermont's health reform vision includes a plan for ubiquitous health information exchange across the full continuum of health care providers. Enhanced broadband services across the state will provide a critical linchpin for this expansion. This will start with the interconnection of all of the state's hospitals and FQHCs. The eventual goal is to connect with all health care providers across the state.

The Department of Vermont Health Access and Health Care Reform is updating the State HIT Plan to include strategies for leveraging disparate HHS, ARRA, and health reform resources that can be brought together in Vermont to implement a unified, operational framework. Broadband infrastructure development is an essential component. Full health care system integration in Vermont means integrated care delivery with HIT connectivity and interoperable HIE systems (and telemedicine) via statewide broadband to all providers and health care institutions. Broadband is a critical component to deploy the efficient Software as a Service (SaaS) model EHRs which will be much more readily implemented in small provider offices.

Vermont Telecommunications Plan 2010

> Vermont's Telecommunications Plan 2010 identifies seven outcomes to be achieved by year end 2012, including "Fiber broadband connectivity to all anchor institutions and large businesses":
>
> Capacity on expanded fiber optic networks has the ability to connect institutional entities and other types of users in many areas of the state, especially in combination with existing fiber network infrastructure and/or new construction.
>
> In the past, overarching economic challenges to the business case for sustainable broadband infrastructure in Vermont left many Vermont organizations with little or no choice of providers for enterprise level broadband and pricing was prohibitive. In fact, pricing models historically encouraged network managers to 'slim down' applications and network use in order to afford minimal bandwidth from providers that operated within a model of scarcity. However, in the near future, where large-capacity fiber connections are available and priced so as not to discourage additional use of that abundant capacity, there will be a qualitative difference in the kinds of applications developed. When users operate under an assumption of ubiquitous and unconstrained availability, this situation will lead to the implementation of new tools for home and work. Users will pay primarily for the availability of a high-capacity connection, but will have low incremental pricing barriers to extensive use of these connections once they are available. By the end of 2012, an environment where similar types of services and pricing conditions are essentially universally available throughout the state will encourage all members of various classes of users (such as education, or libraries, or health care institutions) to subscribe to a similar high level of service, promoting the development of networks that connect different classes of users.
>
> Last but not least, service providers with legacy networks who connect with the new backbone and are willing to support this "abundance" will prosper. The value added to the network through

increased content and participation facilitates new systemic efficiencies and may even promote greater spending on bandwidth at a lower per unit cost.

The availability of these types of fiber optic connection and "abundant" bandwidth over them will also support achievement of other outcomes in this plan. Mobile service along Vermont roads which requires transport service between radio locations that are remote and often served by only one or two T-1's will also benefit from affordable high capacity fiber connectivity that enables higher data delivery speeds and seamless service. Similarly, local networks that supply broadband services to homes and small businesses rely on these high-capacity fiber networks to transport traffic from the local community to the wider world. On the demand side, sustainable broadband adoption programs and most importantly, aggregation among classes of anchor institutions that include large business, cell carriers, education, healthcare, government and libraries will support and be supported by the achievement of this outcome.

Broadband Grants

Vermont is using multiple grants from the federal government to expand the state's broadband capacity.

Grant for Broadband Mapping Initiative

Vermont's Broadband Mapping Initiative is a collaborative broadband data collection and verification effort involving partners from the public, private and academic sectors participating as the Vermont Broadband Mapping Team. Major funding ($1.2m) for this project comes from the National Telecommunications and Information Administration (NTIA), an agency of the U.S. Department of Commerce.

The Vermont Broadband Mapping Team has initiated the creation and development of a comprehensive geographic inventory of broadband service availability in the State of Vermont. Landline and wireless services (fixed and mobile) are being mapped, including wireless voice and data with information from broadband service providers and other sources. The broadband mapping information collected and verified through this effort is supporting the broadband development objectives identified in the RUS Broadband Initiatives Program (BIP) and NTIA's Broadband Technology Opportunities Program (BTOP) in Vermont. Most importantly, the geographic inventory will further refine our understanding of the location of "unserved" and "underserved" areas in the state, thereby supporting targeted future investments in these areas (See figure 1, "Broadband Gaps – 2010".

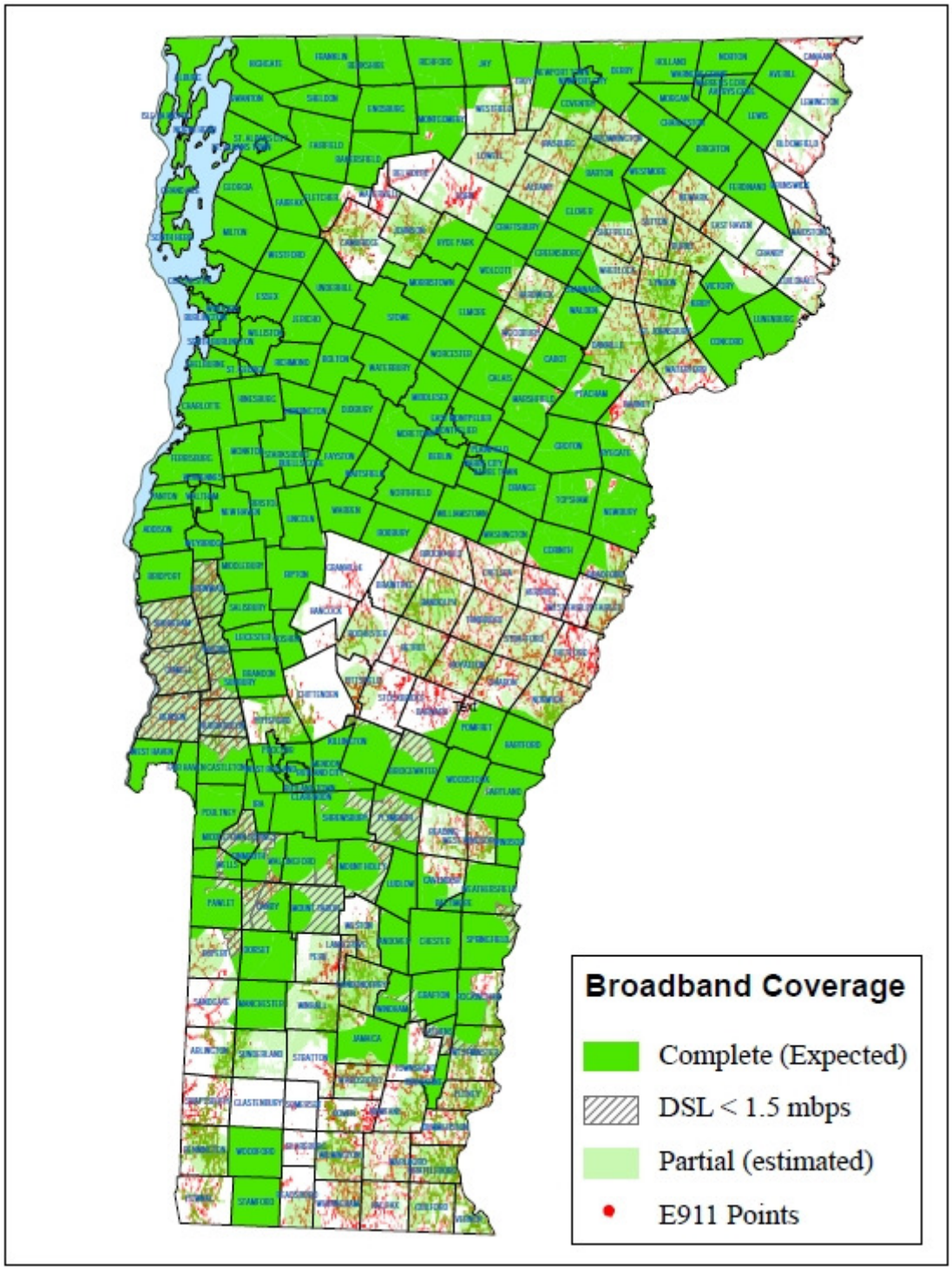

Figure 2: Broadband Gaps - 2010

The Vermont Broadband Mapping Team is composed of geospatial and telecommunications professionals with organizational missions intended to serve the public good. The Mapping Team is also composed of organizations that have worked together on various mapping related projects for many years. This combined experience is helping the Team meet the demanding requirements of NTIA's Broadband Data and Development Grant Program.

VTel USDA Grant

The Vermont Telephone Company (VTel) is the recipient of a U.S. Department of Agriculture rural broadband grant and loan award as part of the American Recovery and Reinvestment Act (ARRA). The total project cost will be more than $146 million including $30 million of private capital to be invested by VTel. VTel was awarded an approximately $82 million grant and $35 million loan to bring broadband service to more than 130,000 unserved and underserved Vermonters. VTel believes that this project, along with services already in place, will result in virtually all Vermonters having high quality broadband available.

VTA public-private Stimulus Funds Grant

The Vermont Telecommunications Authority (VTA) and Sovernet Communications have a public-private partnership, Vermont FiberConnect, which is receiving a $33.4 million grant from the National Telecommunications and Information Administration's (NTIA) Broadband Technology Opportunities Program (TOPS). This grant will allow Sovernet to develop, own, maintain and operate a 773 mile fiber-optic middle mile network in southern, central, and northeastern Vermont. The project will connect over 340 community anchor institutions in the project area, and will benefit the New England Telehealth Consortium.
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Grant for Vermont Council on Rural Development

The Vermont Council on Rural Development (VCRD) awarded a $2.5 million grant from the U.S. Department of Commerce. VCRD is a non-profit dedicated to the support of locally defined progress of Vermont's rural communities and has advocated for universal broadband service for 10 years.

This ARRA grant will complete the funding needed to launch VCRD's "e-Vermont: The Vermont Community Broadband Project", which will stimulate broadband use in 24 Vermont towns by identifying best practices for increasing sustainable broadband access.

During the next two years, the project will bring broadband to schools, businesses, local governments, libraries and other community agencies in areas of the state that have not yet received broadband access.

Broadband Telehealth Networks Grant

The Federal Communications Commission's Rural Health Care Pilot Program is funding the build-out of broadband telehealth networks that will link hundreds of hospitals. Collectively, the 16 projects in this program are eligible to receive up to $145 million in reimbursement for the deployment, including engineering and construction, of their regional telehealth networks. The networks will provide critical, high-speed information links that can save lives and reduce the cost of health care in their rural communities.

Vermont is a participant in the New England Telehealth Consortium along with Maine and New Hampshire. The $25m award is funding a multi-state telehealth network to deliver remote trauma consultation and expansive telemedicine by linking approximately 500

primarily rural health care facilities – including hospitals, behavioral health sites, correctional facility clinics, and community health care centers – in the three states to urban hospitals and universities.

1.3 Federally-Qualified Health Center (FQHC) networks

Vermont has 8 FQHC grantees operating a total of 40 primary care, dental, and mental health service sites serving the primary care needs of nearly one in five Vermonters. The health centers created a network in collaboration with VITL and several of the state's Critical Access Hospitals utilizing HRSA Office of Rural Health Policy network planning and implementation funding. That network, the Vermont Rural Health Alliance (VRHA), has evolved into a formal Health Center Controlled Network (HCCN) currently awarded a two year grant to complete the build-out of EHR adoption and implementation at its member health centers.

VHRA is also using HCCN funding to expand the functionality of the Blueprint clinical registry to support FQHC-specific reporting requirements. The HCCN funds complement ONC funding being utilized to expand connectivity to the VHIE network. The HCCN staff participate in bi-weekly project status meetings with VITL, the Blueprint, the Division of Health Care Reform, and the CHIPRA-grant funded pediatric HIT projects to ensure full integration of these closely related projects supported by multiple funding streams.

HRSA Office of Rural Health Policy (ORHP), Bureau of Primary Health Care (BPHC), & Bureau of Health Professions (BHPr)

The Vermont Department of Health operates an integrated Office of Rural Health and Primary Care. The Office has supported and encouraged HIT development in Vermont, working with HRSA grantees on numerous projects implemented to support local implementation of state health reform initiatives at Federally Qualified Health Centers (FQHC), Rural Health Clinics (RHC), and Critical Access Hospitals (CAH). The Office funded the first statewide survey of EMR adoption in primary care practices and worked closely on development of two HRSA/ORHP funded rural health networks, one focused on building a statewide telemedicine infrastructure, the other supporting FQHC, RHC, and CAH integration with the Vermont Blueprint for Health and HIT-HIE initiatives.

The state Office of Rural Health and Primary Care, along with the state Primary Care Association, provide an important link to the state's HRSA funded Federally Qualified Health Centers (FQHC) as well. While most Vermont FQHCs have implemented EHR systems, several have not. The Division of Health Care Reform will work with the state's FQHCs to ensure collaboration and coordination with HRSA HIT funding programs targeted to FQHCs and integration with the state HIE vision.

1.4 Status of Veterans Administration (VA) clinical facilities

The State is coordinating with the VA on multiple fronts. Coordinated HIE planning is occurring between the Department of Mental Health (DMH) and the VA at both the White River Junction veterans' hospital and at the VA Community Based Outreach Centers (CBOC), particularly in Chittenden County. Multi-entity coordination is under way among DMH, the VA, Dartmouth Hitchcock Medical Center and its Vermont-based practices, Fletcher Allen Health Care, the Vermont State Hospital, the University of Vermont, the Vermont Office of Veterans Affairs, and the Vermont Department of Corrections for HIE through the DMH Futures program, various State-sponsored Continuity of Care initiatives, and the SAMHSA (Substance Abuse and Mental Health

Service Administration) funded MHISSION-VT (Mental Health Intergovernmental Service System Interactive Online Network) program, an HIE-enabled jail diversion program for veterans with mental health and substance abuse issues.

1.5 Identification of stakeholders engaged in existing HIT/E activities

Vermont has been careful to identify and engage stakeholders throughout its history of pursuing healthcare reform. The effort and results of Vermont's stakeholder focus is described in the VHITP and some of that material is presented here as well. In the discussion at the beginning of this Section A As-Is description we have identified stakeholders in a **bold font**. **Throughout this remaining description, Stakeholders continue to be highlighted in bold**, and a summary diagram is provided at the end of this topic.

Collaborative Governance Model

As described above in Section 1.A., Vermont's HIE governance structure has gone through evolutionary development. Originally chartered by the state to develop both the *Vermont HIT Plan* (VHITP) and statewide HIE, VITL took the original role in convening stakeholders and establishing the framework for HIT policy and HIE governance. VITL's original Board structure included nearly two dozen Directors, providing broad representation of government, consumer, and stakeholder interests. VITL also operated a series of **open, public work groups, including the HIT Plan Advisory Committee, a Provider Work Group, and a Privacy & Security Work Group**.

In 2009, Act 61 specified a governance model that divides policy coordination and oversight (now placed with the state) from HIE operations and implementation. Accordingly, the State Government HIT Coordinator now convenes public meetings and work groups to ensure full public participation in the process of HIT-HIE policy implementation, and VITL's Board of Directors provide governance for the HIE itself, as well as other programs VITL operates (such as its current e-Prescribing initiative and its role as the state's Regional HIT Extension Center).

State HIT Coordinator

The State HIT Coordinator is directly accountable to the Governor and the General Assembly and is responsible for coordinating and convening multi-disciplinary input from broad HIT and HIE stakeholders. The Coordinator is also responsible for ensuring alignment and collaboration with ARRA funded programs across state government.

Currently, the Coordinator convenes:

a) the monthly **General HIT Stakeholders** meeting to provide input on HIT-HIE policy issues and **sub-groups on Privacy & Security, Communication, and HIE Planning**;

b) the **HIT & Higher Education Work Group** designed to ensure collaboration for both HIT workforce and university-based HIT research efforts across the state; and

c) the **state Regional HIT Extension Center Advisory Board**.

The Coordinator also publishes regular electronic updates to provide status on HIT/E progress.

As noted, the State HIT Coordinator also directs the Division of Health Care Reform in the Department of Vermont Health Access, the state Medicaid agency. The Division Director/State

HIT Coordinator works closely with the Director of the Vermont Blueprint for Health to ensure full integration of HIT-HIE policy and health care reform implementation.

The Division's work is also supported by two DVHA HIT-HCR Project Managers and the HIT-HCR Integration Manager who, with the Director, form the leadership team overseeing HIT Coordination both inside and outside state government. They collaborate closely with the **Agency of Human Services CIO and the Associate CIO for Health**. They are focused on coordination with Medicaid and the Agency's IT programs and projects, including the re-procurement of Vermont's MMIS system and modernization of state program eligibility systems. Other new positions, focused on the coordination of the Medicaid HIT Incentive Payment program, are being developed through the CMS HIT Planning – Advanced Planning Document process. A state Assistant Attorney General position to take the lead on Privacy and Security Policy is also under development.

Vermont's State HIT Coordinator has the responsibility to ensure that the state's HIT-HIE initiatives are fully integrated and collaborative, both across internal government systems, initiatives, and programs, as well as HIT-HIE programs and initiatives outside of state government. This is fully embedded in the Division Director's responsibility for collaboration of all the state's health reform initiatives both across internal government systems, initiatives, and programs, as well as health reform programs and initiatives outside of state government.

Accountability and Transparency

Accountability, transparency, and engagement with **the public** are a longstanding Vermont tradition and are codified in Section 8 of Act 61 of 2009, which requires that "the state shall consult with and consider the recommendations of:

(1) Health care and human service providers, including those who provide services to low income and underserved populations;
(2) Health insurers;
(3) **Patient or consumer organizations** that represent the population to be served;
(4) **Health information technology vendors**;
(5) **Health care purchasers and employers**;
(6) **All relevant state agencies, including the department of banking, insurance, securities, and health care administration; the department of information and innovation; and the agency of human services**;
(7) **Health profession schools, universities, and colleges**;
(8) **Clinical researchers**;
(9) **Other users of health information technology, such as health care providers' support and clerical staff and others involved in patient care and care coordination**; and
(10) Such other entities as the Secretary of Health and Human Services determines appropriate."

As noted, this plan reflects engagement with those constituencies, who continue to be engaged through the monthly General Stakeholder meetings, **Medicaid Advisory Board** meetings, **state Health Care Cabinet** meetings, the annual legislative process, and through both standing and *ad hoc* committees convened by the HIT Coordinator or VITL.

Public Engagement, Communication, & Outreach

Although Vermont has made notable progress in outreach to and engagement with stakeholders in the health care policy and provider community, consumer engagement remains a "work in

progress." VITL has included consumer representation on its Board from the outset, but broad consumer engagement has been somewhat limited. In part, this is a function of the stage of HIE development in Vermont which, for all of its relative sophistication, is still very much in its early days.

With the new ARRA resources, as well as state and federal health reform initiatives, particularly the impending statewide expansion of the Blueprint for Health, Vermont is well positioned to initiate a major consumer outreach campaign. VITL and the State will collaborate on a series of efforts designed to reach Vermonters directly and through their health care professionals, as a component of direct outreach to physicians and other clinicians.

Governor Jim Douglas ended his tenure as co-chair of the State Alliance for e-Health, an initiative of the National Governors Association's Center for Best Practices, this fall and did not run for re-election. However, the Governor's support for HIT-HIE throughout his eight year administration makes it particularly fitting that, as he ends his term, he will launch a public service information campaign highlighting the benefits of HIT for Vermonters and inviting them to "opt in" to HIE, including a consumer web site where they can obtain additional information and where they will be invited to participate in regional community forums that will be coordinated with the Blueprint expansion.

In addition to the public outreach campaign, VITL and the State plan to embed much of the communication to consumers in the health care setting, using consumers' own trusted practitioners as a key source of information about Vermont's HIT-HIE initiatives. This approach requires cultivation of and coordination with the provider community, but the strategy matches the phased approach to the Blueprint / HIT-HIE expansion based on Hospital Service Areas.

The overall approach to communications is summarized below.

a. *Why Do We Need to Communicate?*
    - To gain buy-in to achieve widespread adoption and use of HIT-HIE
    - To prevent miscommunications and demystify aspects of HIE
    - To convey the benefits of HIE and digitized health records
b. *To Whom do we Communicate this Information?*
    - Providers
        - Hospitals
        - **Primary Care and Specialist Practices**
        - **Mental Health, Behavioral Health, Substance Abuse**
        - **Long Term Care**
        - **Home Health**
    - Consumers who bring diverse perspectives
        - Easy buy-in people (people delighted by the idea of EHRs and HIE)
        - People with issues around privacy
        - Consumers with a mental health/substance abuse perspective
        - Individuals with some form of protected status
        - Chronic/pre-existing health issues
        - Digital natives (who don't understand why this hasn't happened already)
        - Illegal Status
    - Payers
        - **Commercial Insurers**
        - **Self-insured employers**
        - **Medicaid**
        - **Medicare**

        - **VA/DoD**
    - **Employers**
        - **Large companies**
        - **Small companies**
        - **Self employed**

c. *What Information Needs to be Communicated?*
    - What is "it?"
    - What is the message?
    - How the data will be used
    - The benefits of HIE
        - Reduce errors
        - Patients get all their information easily
        - Improve clinical and quality outcomes
        - Reduced costs
        - Patients helping other patients with like diseases
        - Allocate resources properly i.e.- efficient, effective
        - Patients spend less time at the doctors
        - Reduce waiting time
    - Meaningful use incentives
    - Will HIE really lower cost?
    - Will HIE really improve patient care?

d. *Who Communicates to Whom?*
    - Link communication focus to Hospital Service Area expansion strategy
        - **Provider Leadership** (including docs) communicates to
            - **Provider care teams (Nurses, PA's, front desk staff…etc**.) who communicate to
                - Consumers
    - Reinforce messaging through:
        - Paid and earned media
        - Social media
        - Outreach through community groups (Rotary, Chambers of Commerce, etc.)

A comprehensive communication plan currently being developed by VITL will identify priorities and phases of communication and specific strategies broken down by Hospital Service Area, as well as outreach through statewide provider groups and associations.

Another area of consumer engagement will be through **community-based organizations**. As noted above, Vermont has a lengthy and comprehensive history of engagement with stakeholders in the development of HIT-HIE planning. In addition to the monthly General Stakeholder meetings, and presentations to the Vermont Health Care Reform Commission, whose meetings serve as a principal forum for health care advocates in the state, the Division of Health Care Reform staff has and will continue to meet with and request input and feedback on HIT-HIE expansion and implementation from, among others: the **state Medicaid Advisory Board**, the **Vermont Coalition for Disability Rights (VCDR),** the **Vermont Council for Independent Living (VCIL),** the **Vermont Low Income Advisory Council (VLIAC**), the **Vermont Campaign for Health Care Security, Vermont Legal Aid, the Office of Vermont Health Care Ombudsman, the Bi-State Primary Care Association (representing Federally Qualified Health Centers, Planned Parenthood, and Rural Health Clinics**, all of whom have a mission-based focus on under-served populations), the **Vermont Coalition of Clinics for the Uninsured**, the **Department of Aging and Independent Living (DAIL) Consumer Advisory Board**, the **Vermont Council of**

Developmental and Mental Health Services, the **Vermont chapter of the American Civil Liberties Union**, and other consumer and community stakeholders.

The Vermont Chair Lift

Dr. Blumenthal famously describes the Meaningful Use "escalator." Similarly, Vermont has an HIE "chair lift" to lift providers through stages of information exchange. The State HIE network infrastructure is being built out progressively in a manner that (1) addresses the needs of all providers to demonstrate Meaningful Use, (2) supports the state's health reform initiatives by providing data to the Blueprint for Health registry system and (3) recognizes the need for the evolution of policy and technical capability.

Providers seeking to achieve meaningful use need to demonstrate the exchange of clinical summaries. The first step on the exchange escalator will be to connect all hospitals in the state to the HIE and to connect physician practices with EHRs to the HIE for the purposes of exchanging laboratory information and sending clinical summaries as CCDs. Practices participating in the Blueprint for Health Program will use the CCD to send clinical information to the Blueprint Registry. Non-participants are, by and large, using the same EHR vendors. It is our expectation that the learning from producing CCDs for the Blueprint will accelerate their production by non-participant users.

The next step in the exchange progression is for practices to exchange clinical summaries with each other. This will be done by pushing and consuming the CCD. This will require the implementation of a reliable provider directory for routing and the establishment of clear protocols for secure exchange. The directory, being implemented by the State, is anticipated to available for use by mid-2011. It is our expectation that the NHIN Direct specifications will guide clinical summary exchange. However, until those standards are finalized and ready to be implemented, it is difficult to commit to their use with specificity.

The next step in clinical exchange is the ability to pull summaries from disparate sources to create a holistic view of the patient's status and care. This level of advanced exchange will require opt-in consent in VT and will need to be informed by both federal and state policy. Vermont is convening a stakeholder process to reevaluate our current policies and assess the need for change in rule or legislation. It is our understanding that ONC will be providing guidance to assist states in implementing appropriate consent and privacy policies. We have also identified significant limitations in vendors' ability to conform to the IHE standards required to support private, secure and auditable advanced exchange. Given the need to incorporate both state and federal guidance, the current technical limitations of the vendors, and the need to focus on Stage 1 Meaningful Use exchange, we anticipate delaying advanced exchange until late 2011 or 2012.

Privacy & Security Work Group

Privacy and security are important and critical topics related to HIT/E, and Vermont's effort to address these issues is also relevant to a stakeholder discussion.

Rationale: Highly reliable and transparent privacy and security policies and practices are critical to the acceptance of electronic health information and HIE by the citizens of Vermont.

Current state: In 2008 and early 2009, VITL conducted a statewide process to engage consumer and provider stakeholders on the issue of privacy and security, and developed a set of six privacy and security policies to govern the operation of the Vermont Health Information Exchange.

As part of this process, federal and state laws and regulations were analyzed. This analysis also included the HHS Privacy and Security Framework, to ensure that the privacy principles in the framework were reflected in the privacy and security policies adopted by the VITL Board in April 2009. A further review and revision of those policies focused on secondary use criteria was conducted over the summer and approved by the VITL Board in September 2009. The complete set of VITL's privacy and security policies appears in Appendix B, along with a discussion document: "Application of Law to the Privacy and Security Framework of a Health Information Exchange Network."

More recently, the State HIT Coordinator has initiated a process to convene a new Privacy & Security Work Group to provide advice to the State about updates and adjustments to the existing policies. The state is not embarking on a rewrite or substantial revision of the current policies; rather, it is looking to provide necessary updates and maintain a forum for on-going discussions on the topic. The role of this Work Group will be to provide advice, not to determine State policy moving forward, which is a different role than the Work Group VITL convened, during the period of time in which the State delegated that role to VITL. The meetings will be open and public and will solicit diverse points of view, but ultimately the Commissioner will accept, reject, or modify the Work Group recommendations. It is also possible – and this will be on the Work Group's agenda – that there will be a recommendation that statutory language relating to the security and privacy of electronic health information be developed, in which case there will be further opportunity for discussion and debate in the legislative forum.

Preliminary issues on the docket for the Work Group over the coming year include:

1. 42 CFR Part 2 and the recent SAMHSA FAQ on same may require adjustments to current policy related to exchange of alcohol and substance abuse records;
2. Discussion about exchange of minors' health information (particularly because of the different approaches our neighboring states have taken);
3. Restrictions on the exchange of information from self-pay encounters (raised by sections of the HITECH Act);
4. The federal Data Use and Reciprocal Support Agreement (DURSA) for use with the National Health Information Network; and
5. Closely related to 4, the general subject of interstate HIE and cross-border issues that arise from differing state privacy and security policies and legislation.

Process steps for the Work Group include:

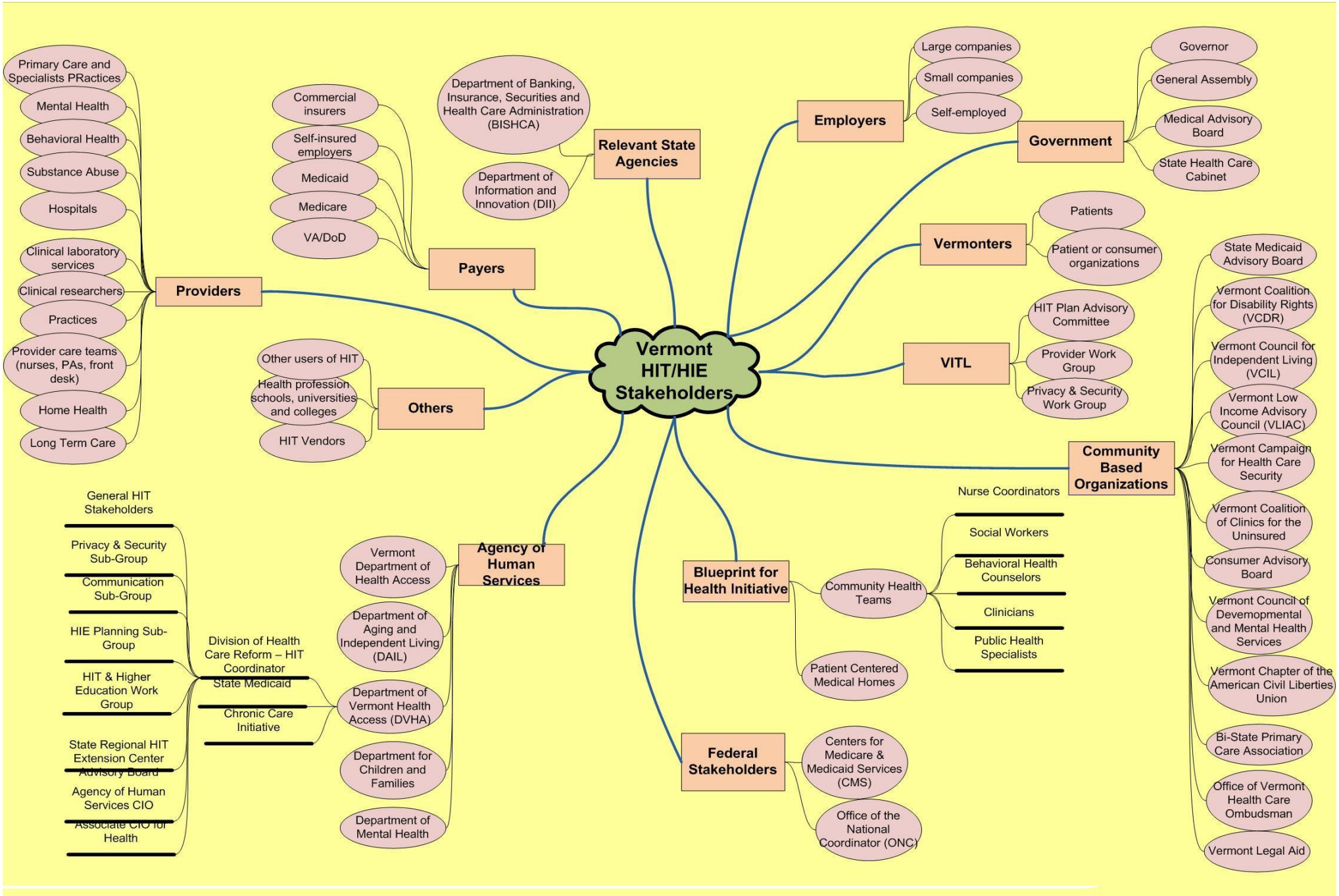
1. Identifying members through solicitation at the HIT-HIE Stakeholders monthly meetings, via the HIT Coordinator's regular e-Updates, and direct outreach to stakeholder groups and interested parties. (September – November 2010);
2. Convene first meeting (December 2010);
3. Hiring of State Privacy Specialist (2011, upon approval of SMHP and IAPD);
4. Conduct monthly meetings (January – December 2011);
5. Make recommendations to State HIT Coordinator and DVHA Commissioner (as needed based on meeting outcomes, with reporting to the Commissioner and Stakeholders via State HIT Coordinator's e-Updates quarterly);
6. Development of potential legislation (October – December 2011);
7. Introduction of legislation, if any (January 2012)

8. Continued monthly (or possibly bi-monthly meetings) as needed throughout 2012.

Given the delays in clarification of privacy policy issues from federal agencies, offices, and departments and the interest in supporting HIE adoption and patient consent for participation in exchange, the State HIT Coordinator has announced a plan to pursue interim revision of State HIE policies. These revised policies would support the exchange of medical data pending resolution of – or at least further federal guidance on – issues related to exchange of the sub-set of health information pertaining to mental health, substance abuse treatment, and other areas where patients might seek more granular control over information sharing among health professionals.

The following diagram depicts the HIT/HIE Stakeholders for Vermont.

Figure 3: Vermont HIT/HIE Stakeholder Diagram


Vermont HIT/HIE Stakeholders
Providers
Primary Care and Specialists PRactices
Mental Health
Behavioral Health
Substance Abuse
Hospitals
Clinical laboratory services
Clinical researchers
Practices
Provider care teams (nurses, PAs, front desk)
Home Health
Long Term Care
Payers
Commercial insurers
Self-insured employers
Medicaid
Medicare
VA/DoD
Relevant State Agencies
Department of Banking, Insurance, Securities and Health Care Administration (BISHCA)
Department of Information and Innovation (DII)
Others
Other users of HIT
Health profession schools, universities and colleges
HIT Vendors
Employers
Large companies
Small companies
Self-employed
Government
Governor
General Assembly
Medical Advisory Board
State Health Care Cabinet
Vermonters
Patients
Patient or consumer organizations
VITL
HIT Plan Advisory Committee
Provider Work Group
Privacy & Security Work Group
Community Based Organizations
State Medicaid Advisory Board
Vermont Coalition for Disability Rights (VCDR)
Vermont Council for Independent Living (VCIL)
Vermont Low Income Advisory Council (VLIAC)
Vermont Campaign for Health Care Security
Vermont Coalition of Clinics for the Uninsured
Consumer Advisory Board
Vermont Council of Devemopmental and Mental Health Services
Vermont Chapter of the American Civil Liberties Union
Bi-State Primary Care Association
Office of Vermont Health Care Ombudsman
Vermont Legal Aid
Blueprint for Health Initiative
Community Health Teams
Nurse Coordinators
Social Workers
Behavioral Health Counselors
Clinicians
Public Health Specialists
Patient Centered Medical Homes
Federal Stakeholders
Centers for Medicare & Medicaid Services (CMS)
Office of the National Coordinator (ONC)
Agency of Human Services
Vermont Department of Health Access
Department of Aging and Independent Living (DAIL)
Department of Vermont Health Access (DVHA)
Department for Children and Families
Department of Mental Health
Division of Health Care Reform – HIT Coordinator
State Medicaid
Chronic Care Initiative
General HIT Stakeholders
Privacy & Security Sub-Group
Communication Sub-Group
HIE Planning Sub-Group
HIT & Higher Education Work Group
State Regional HIT Extension Center Advisory Board
Agency of Human Services CIO
Associate CIO for Health

1.6 HIT/E Relationships with other Entities

Significant relationships to be discussed here are those with VITL, with the Blueprint for Health, Governance entities, entities associated with Financial Sustainability, Interstate Exchange, and NESCSO (New England States Consortium Services Organization).

VITL

As described in Section above, VITL, the Vermont Information Technology Leaders, Inc., was funded and authorized as a 501c3 not-for-profit corporation through the 2005 Budget Act to develop statewide HIE. Appropriations have continued in each subsequent annual state budget. However, realizing the state's ambitious goals could not be achieved without more formal, systemic investment in HIT, Vermont additionally instituted its Health IT Fund in 2008. A fee ($2/10^{th}$ of 1%) paid on all health insurance claims generates annual revenues for the state Fund which provides grants to support HIT and HIE.

The Vermont Health Information Exchange (VHIE) network operated by VITL, is a critical conduit for the Vermont Blueprint for Health IT infrastructure, enabling both personalized and population-based care coordination and management for the Blueprint's integrated primary care medical homes and community health teams.

VITL has established an EHR Connectivity Service, which enables hospitals to deliver electronic test results directly to physician EHRs. This service is critical for physicians implementing EHRs, and it lays the foundation for bi-directional health information exchange. VITL also provides the interfaces which enable physicians to send data to the Docsite system, which is the Blueprint for Health repository. This supports the patient-centered medical home initiative.

Blueprint for Health

Act 61, 2009, included a Chapter on the topic of Health Information Technology, and the State's plan for HIT. Specific language is included in that chapter related to the Blueprint for Health, namely: "integrate the information technology components of the Blueprint for Health established in chapter 13 of this title, the agency of human services' enterprise master patient index, and all other Medicaid management information systems being developed by the office of Vermont health access, information technology components of the quality assurance system, the program to capitalize with loans and grants electronic medical record systems in primary care practices, and any other information technology initiatives coordinated by the secretary of administration pursuant to section 2222a of Title 3.

Section 9 of that Act, related to HIT Funding, specifies that the Vermont health IT fund shall be used for loans and grants to health care providers for the development of programs and initiatives sponsored by VITL and state entities designed to promote and improve health care information technology, including implementation of the Blueprint for Health information technology initiatives, related public and mental health initiatives, and the advanced medical home and community care team project.

Section 13 of that Act authorizes the secretary of human services or designee to apply to the Secretary of Health and Human Services or other applicable agency for the federal funds to enable Vermont to pursue its goals with respect to modernization and upgrades of information technology and health information technology systems, coordination of health information exchange, public health and other human service prevention and wellness programs, and the Blueprint for Health.

Act 128 of 2010, an act relating to health care financing and universal access to health care in Vermont, specified in Section 12 that it is the intent of the general assembly to codify and recognize the existing expansion design and evaluation committee and payer implementation work group and to codify the current consensus-building process provided for by these committees in order to develop payment reform models in the Blueprint for Health.

Section 13 of Act 128 establishes an executive committee to advise the director of the Blueprint, to consist of no fewer than 10 individuals, and names the spectrum of stakeholders to be represented on this committee.

Since Act 128 is focused on all aspects of the Blueprint for Health and identifies the variety of committees and working groups to be set up and the constituency of each of those group, it is included as Appendix "X" to this SMHP Plan. Clearly the Blueprint represents a significant relationship to the SMHP for HIT/E.

Governance

Governance is touched on in item 1.5 above as a topic area from which many stakeholders are identified. Those that represent a significant relationship include the Governor and legislature, other state agencies whose domains intersect with that of HIT/E, and the specific committees, working groups and individuals specifically identified in the foundation legislation establishing the HIE and the Blueprint. Of course, we also count ONC and CMS as significant stakeholder relationships in the governance of our HIT/E.

Financial Sustainability

Per 32 V.S.A. chapter 241 § 10301, Vermont collects a fee (2/10ths of 1%) on all health insurance claims that generates annual revenues for the state Health IT Fund which then provides grants to support HIT and HIE. While the Fund sunsets in 2015, it will provide substantial capacity to match federal funds available through both ONC and CMS to provide for the statewide build out of the HIE infrastructure.

VITL is in the process of rebidding for its HIE subcontractor to ensure that the match of services and costs create a viable underlying cost structure.

VITL already has a subscription model in place, although fees are currently waived. It is anticipated that by 2015, the value added to the state's health care providers and consumers by ubiquitous, bi-directional exchange of health information will be so substantial that the on-going business case for on-going incremental fee structures will be fully evident. VITL will be building out its sustainability model for both HIE and EHR support during the last half of 2010.

In addition to support from providers and commercial health plans, ARRA provides opportunities for support to HIE sustainability in both the short and longer term. VITL will receive substantial annual funding for HIE as a grantee of the State of Vermont utilizing Section 3013 HIE Cooperative Agreement funding. While guidance from a CMS State Medicaid Directors letter (SMD) is pending, Vermont anticipates funding for both HIE expansion / implementation and an allocated percentage of sustaining funding to come from a combination of Medicaid Section 4201 and MMIS spending authorities. Full details of this will be included in the SMHP upon release of the SMD.

While Medicare funding for HIE is not yet an articulated policy, most State HIT Coordinators and state HIE stakeholders have expressed strong support for Medicare contributing its share of the cost of HIE since Medicare providers and beneficiaries will both benefit from the HIE infrastructure now in development and expanding operation.

Interstate Exchange and NESCSO

Interstate exchange of health information is critical the Vermont, indeed, the northeast medical world. Given the rural nature of the region and the need to travel to medical "hubs" for care, many of our residents access care in adjoining states and other state residents come to Vermont for care. Vermont's second most important tertiary care center is Dartmouth Hitchcock Medical Center in Lebanon, NH. Many NY residents use the tertiary facilities at Fletcher Allen Health Care in Burlington. The pattern of interstate care is summarized in the table below.

In and Out Migration Summary – 2008	
14% of discharges by VT Hospitals are for Out-Of-State Residents	
21% of discharges for VT Residents are in NH-NY-Mass	
	70% of these are DHMC discharges
	13% of these are in Other NH Hospitals
	9% of these are in Mass Hospitals
	8% of these are in NY Hospitals
40% of VT Resident Discharges from VT Hospitals were from FAHC	

Vermont is working in collaboration with its fellow New England States and New York on an initiative convened by the New England State Consortium Systems Organization (NESCSO) to build our capacity to exchange across our borders. An MOU is in development to build a common architecture for interstate exchange and, as a first project, build a provider directory architecture to a common specification across all participating states.

The NESCSO Collaboration will provide the basis for further information sharing based on demand and the capability to navigate variations in privacy law and consent policies in the participating states. However, meaningful exchange between providers in the interim will go a long way towards meeting care needs.

Vermont anticipates using NHIN both for interstate exchange and for exchange with federal programs. The contemplated point-to-point interstate exchange is expected to use NHIN Direct as its vehicle. We anticipate working with other northeastern states to build an exchange plan as the specifications become clearer. The jointly accessible directory mentioned above will provide a critical piece of infrastructure to exchange using NHIN Direct.

Vermont has a large VA Hospital which would be a good candidate for exchange as part of NHIN Connect. To date, the hospital has not been permitted to exchange information electronically with local providers or the VHIE. We will continue to explore opportunities and, as their policy guidance

evolves, incorporate them into the HIE. It is expected that their preferred vehicle will be NHIN Connect.

More detailed planning related to interstate HIE is anticipated for the 2011 edition of the VHITP, based on the regional work in the coming year.

Integration of Milestones Across Domains

The most recent version of Vermont's HIT Plan includes a discussion of "Required and Encouraged Medicaid / HIE Coordination. That discussion is a detailed seventeen point response to ONC-HIE-PIN-001 which lists seventeen activities that plan was to consider. As addressed in detail in the State's HIT Plan, then, the ONC and Medicaid funded HIT-HIE activities in Vermont – including REC and Eligible Provider / Eligible Hospital meaningful use incentive program support – are fully integrated at both the governance and operational levels.

The Division will maintain a comprehensive project management planning database to track the various implementation domains of statewide expansion of the Blueprint and of HIT in tandem, tracking adoption, implementation and upgrades of Electronic Health Records (EHR), interoperable connectivity to the Vermont Health Information Exchange (VHIE) Network and to the Blueprint Registry, registration and certification of Blueprint medical homes, and designation and geographic definition of community health teams.

A delivery systems reform "war room" tracks the status of each implementation domain, updated weekly through a project management reporting infrastructure implemented across the Division of Health Care Reform and in partnership with VITL. Every provider in the state – not just ARRA funding Eligible Providers and Eligible Hospitals – but all Vermont providers (plus many from neighboring MA, NH, and NY) are indexed in a common file that will be updated by the state and utilized by the state and VITL. The SMHP will provide a comprehensive road map with more information about the integrated project management system that will track all Vermont providers from their "as is" to "to be" state across domains, and it will be a central tool in ensuring fully aligned and integrated work being done by the state, its partners, and practices, hospitals, and other health professionals on the ground in communities across the state.

The system will produce both maps and dashboard reports that the HIT-HCR Project Management and Integration leadership team, along with VITL leadership, will use to ensure maximum program alignment, watch for early warning signs to anticipate and correct for potential delays or other execution miscues, and drive the projects toward successful, integrated implementation on time and on budget.

1.7 Governance Structure of Vermont's Existing HIE

Governance is discussed as part of the introductory comments to this Section A As-Is description. Those comments describe the legislative and administrative elements of governance directed to VITL (the state's HIE operator), to the Blueprint for Health, and to the Department of Vermont Health Access and the embedded Division of Health Care Reform.

1.8 Role of MMIS in Our Current HIT/E Environment

Vermont is currently re-procuring its MMIS system to implement a comprehensive Medicaid Enterprise Solution (MES). As such, the role of MMIS in the HIT/E Environment is addressed extensively in the "to-be" portion of the SMHP. Because of the age of the current MMIS infrastructure, much of the current MMIS / HIT/E work has been limited to examining future activities.

One area of particular focus over the past year has been examination of utilization of the VHIE for transmitting claims data in addition to clinical date. In 2009, the legislature and the Division of Health Care Reform convened a work group to examine HIT and Payment Reform. It issued a 220 page report (available online at http://hcr.vermont.gov on the Reports page) that provided an extensive look at the "as is' and "to be" states for both electronic eligibility checks and claims submissions and concluded that moving to "close to real time" claims adjudication should be deferred as a future priority. The burdens of implementing ICD-10 and 5010 and other IT priorities at commercial insures mean it will likely be several years out before evolving to the envisioned, more interactive "to be" state in which transactions would be completed in closer to real time.

Blue Cross / Blue Shield of Vermont enables electronic eligibility checks and electronic claims submissions. Vermont Medicaid is able to provide eligibility electronically and accepts electronic claims. While BCBS and Vermont Medicaid have not yet developed an electronic exchange, we are actively working with BC/BS for eligibility data sharing in an effort to improve the accuracy of third party liability and cost avoidance criteria. The Department has written specifications for its new claims processing Medicaid Management Information System (MMIS) that will include the capacity to adjudicate claims electronically in close to real time for many encounters and procedures. The RFP for this new system will have been released by the time this SMHP is submitted. In addition, the State is currently in procurement for a new Eligibility and Enrollment system for public benefits programs across the Agency of Human Services and is actively evaluating the potential for integration of the new system with a state Health Insurance Exchange that may be developed to meet requirements under the federal Affordable Care Act (ACA).

Because the EHR incentive payment program will begin under the current MMIS system, we will begin payments in the current system and transition to the new system when implemented. We anticipate a more significant MMIS/HIE connection with implementation of the new MMIS. Integration efforts here could make Medicaid claims and encounters available to the HIE as well as making non-Medicaid providers available to the Medicaid program. This would support payment reform as well, and introduces the possibility of utilizing the HIE as a transport mechanism for financial, as well as clinical, transactions, for both Medicaid and commercial claims processing, with Medicaid leading the development. The New England Health Information Network (NEHIN) and the Utah Health Information Network (UHIN) operate under such a model.

MITA Considerations

Vermont sees substantial opportunities for dynamic systems integration, particularly because of the timing of the ARRA funding opportunities and the re-procurement of the state's Medicaid Management Information System (MMIS). Like many states, Vermont's disparate state and state/federal programs operate on a diverse set of legacy systems. Through the state's recently completed Medicaid Information Technology Architecture (MITA) assessment and planning process, Vermont has identified opportunities for conversion and upgrade to a Service Oriented Architecture (SOA) for an evolving Agency of Human Service (AHS) IT enterprise infrastructure. The state has identified three tiers of projects that represent targets of opportunity. While these tiers

are fully described in the State HIT Plan, the pertinent opportunities relative to the SMHP are listed here:

1. Tier 1
    a. Service Oriented Architecture Core Components, including Enterprise Service Bus, Enterprise Master Person Index (EMPI), State Provider Directory, and a Transformation Engine;
    b. VIEWS – Vermont Integrated Eligibility Workflow System
    c. MMIS Reprocurement
    d. CSME (Data Warehouse) Expansion
    e. HIE:HL7 Electronic data feeds into VDH Registries
    f. HIE:HL7 Electronic Lab Reporting (ELR) for Infections Diseases
    g. VDH 1032 Stabilization
    h. WIC EBT
    i. Vermont State Hospital – Electronic Health Record
    j. HIE:HL7 Electronic Lab Reporting (ELR) – Cancer Registry
    k. Update EMRs for IZ & transmission to VHIE network.
2. Tier 2
    a. VDH Computerized Provider Order Entry (CPOE) for lab tests
    b. AHS Network enhancements
    c. Integrated Case Plan
    d. Expand Statewide licenses for Docsite
    e. Security and Privacy enhancements
    f. Integrated Children's services
    g. CIS Billing to MMIS
    h. Extend MH EHR to Designated Agency Partners
3. Tier 3
    a. Imaging expansion to health care
    b. Blue Button
    c. AHS Electronic Health Record
    d. ADAP Treatment and Prevention Reporting
    e. ACCESS Replacement
    f. Real time prior authorization for services

The following illustration provides a visual sketch of the relationships. As the diagram illustrates – conceptually, not with technical specificity – this architecture ensures integrated development of interoperable data flows to and from public health registries through the HIE network from and to providers.

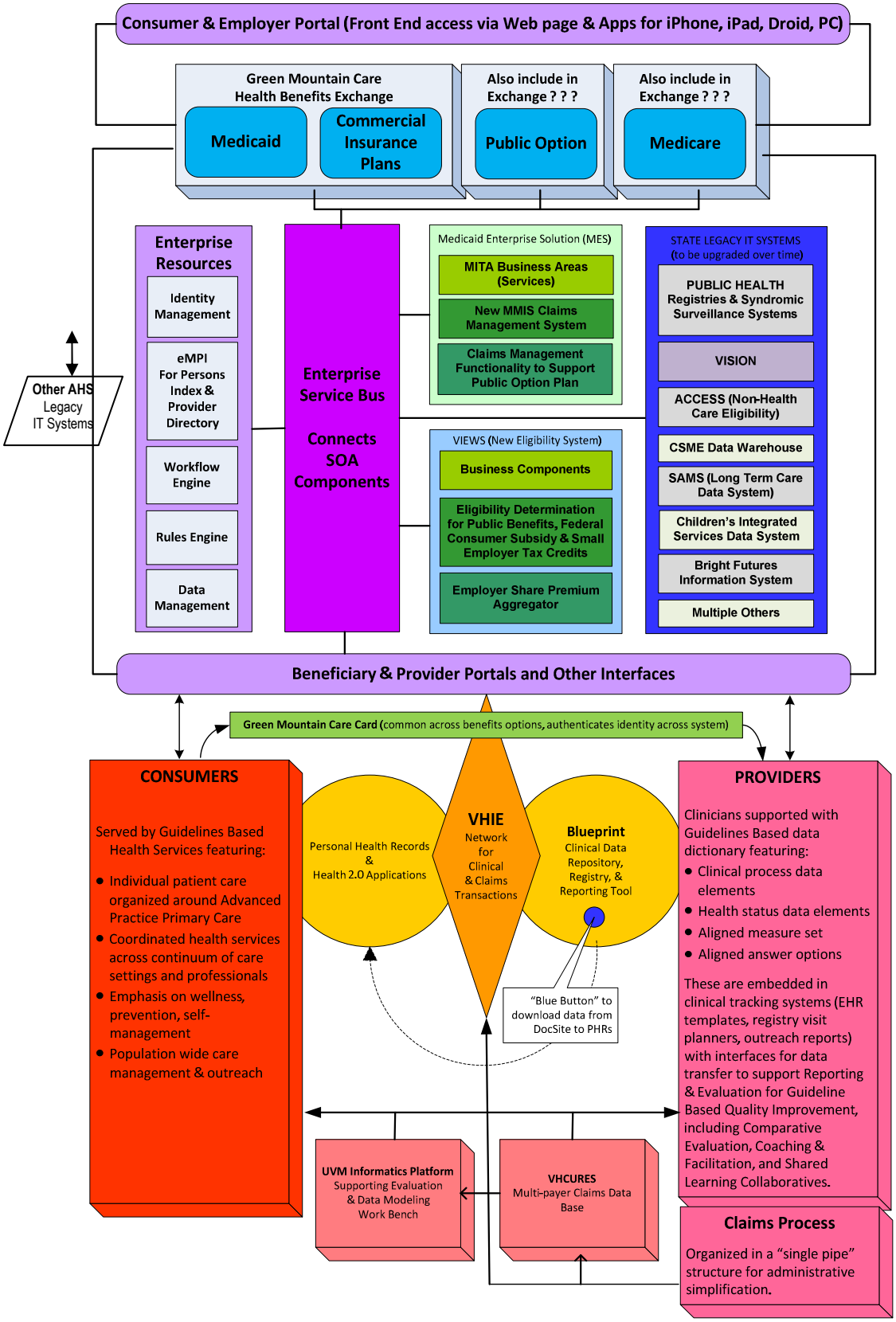


Figure 4 – Architectural components (a larger annotated version of this diagram is included in the Section E Roadmap discussion)

The Service Oriented Architecture Core Components procurement is foundational to the other major systems work related to HIT/E. That procurement is currently in the process of vendor selection, but the RFP clearly stated that "AHS enterprise architecture needs to adhere to multiple sources of standards including those issued by the Federal Government related to MITA assessments and SOA architecture for Centers for Medicaid and Medicare (CMS)". A Use Case Example from Health Care Reform describes the benefits of these core components.

Specific Use Case Example from Health Care Reform – from Core Components RFP

The State Health Information Exchange (HIE) provides the infrastructure necessary to transfer data seamlessly, timely, and securely. It is essential that the State be able to provide not only this rapid and judicious exchange of data via the transformation hub (generally referred to as a Rules Engine) but the State needs to be able to delve further into this data such as:

- Transform claims transactions allowing for recording and tracking of provider information enabling the State to account for:
    - Identification of potential providers for enhanced payments
    - Monitoring of providers to eliminate 'double dipping'…especially since Vermont has a number of providers that provide services across State borders
    - Distinguish provider types and provider associated agencies
- Transform claims transactions allowing for the recording and tracking of beneficiary information allowing the State to account for:
    - Identifying clinical findings and rendered services for treatment monitoring
    - Audit and investigate beneficiaries to reduce fraud and pharmacy abuses, especially since Vermont has a number of providers that provide services and supplies across State borders
    - Reporting and evaluating beneficiary data regarding outcomes
    - Effective transmission of Continuity of Care Record (CCR), Continuity of Care Document (CCD) and other Federal prescribed data files.

And, of course, the Rules Engine will provide a foundation for eligibility in its broadest sense, applying rules structure to policy to enable consistent derivation of eligibility conditions and benefits whether for health care or for inmate release (sentence computation).

The Enterprise Services Bus (ESB) will ensure that data and information is routed to the appropriate component; multiple data formats are mapped correctly; and streamline data integrity. ESBs are scalable both vertically, to provide facilities for individual services, and horizontally, to provide available services across AHS. The robust functionality of the ESB will give the State's infrastructure the ability to share and re-use business services throughout AHS.

The Workflow Component (WF) will create efficiencies such as abridging claims procedures, simplification of appointments, and improving avenues of communication. These are among the many potential benefits and the result will be a health care delivery infrastructure that is fast, efficient and effective. This WF is consistent with Medicaid Information Technology Architecture (MITA) (https://www.cms.gov/MedicaidInfoTechArch/) initiatives and will focus on improving our business, driving enterprise architecture and the implementation of "automated workflows" by:

- Adding Business Services which workflow can call
- Adding Business Process Management (BPM) Governance that governs creating, deploying, executing and managing reasonable business services

Along with automating certain pieces of our workflow, these efforts will allow AHS to use tools to enable and track communications across internal and external entities.

The enterprise Master Person Index (eMPI) and Identity Administration and Management (IAM) solutions are closely coupled and will provide the State with critical software functionality to accomplish the following:

- Identify people in a secure, efficient and timely manner
- Track, manage and have auditing capabilities for de-duplicating people in Vermont's enterprise service oriented architecture
- Identify and link data from disparate systems
- Assign and manage user privileges once a person is identified and successfully logged-in
- Provide authentication, authorization, provisioning and auditing for our enterprise that meets all necessary compliance regulations for identification management

1.9 Current Activities Underway to Plan and Facilitate HIE and EHR Adoption

Obtaining approval of this SMHP is a primary activity underway to plan and facilitate HIE and EHR Adoption, as the associated I-APD will establish the funding flows to make incentive payments to Vermont's hospitals and providers. Other activities underway include hospitals, labs, physician practice EHR adoption, coordinating HIE and EHR adoption with the Blueprint for Health rollout, and making effective use of VITL as both an HIE and network provider and the State's sole REC to further support the adoption and implementation of EHRs. In addition to working with hospitals and physician practices, we are also working with Home Health, Mental Health/Behavioral Health/Substance Abuse, and Long Term Care providers. Elsewhere in this plan we describe our plans and efforts to implement and support the Meaningful Use requirements of the EHR provider incentive program.

The comments in response to topic 1.1 (EHR Adoption) of this Section A As-Is description provide expanded detail with respect to the status and level of activity of HIT adoption for Hospitals, Labs, Physician Practice EHR adoption rates, Home Health, Mental Health/Behavioral Health/Substance Abuse, and Long Term Care. Please refer to that section to review those comments. Additional comments are made here on the Blueprint for Health and activities at VITL.

Vermont's Blueprint for Health:
Vermont's Blueprint for Health is leading the healthcare transformation in Vermont through an integrated delivery model that includes patient centered medical homes supported by community health teams, and financed through a multi-insurer payment reform structure. Currently implemented in three pilot communities, the model is designed to be scalable and adaptable from small independent practices to large hospital based practices and from rural to urban settings. The

Blueprint forms the basis of a system of integrated, coordinated care that, with passage of new 2010 reform legislation, will extend statewide by 2013.

Cost effective care depends on health information being available when and where it is needed, so Vermont's system reforms are built on the premise of ubiquitous, multi-dimensional health information exchange. In addition to encouraging EHR adoption and HIE linkages to labs and hospitals, the Blueprint has invested in the creation of a web-based clinical registry and visit planning templates, as well as population reporting tools linked to EHR and PHR systems through the HIE.

Specific expansion goals are established for the Blueprint rollout, including having at least two medical homes established in each Hospital Service Area (HSA) by July of 2011, and having all willing primary care providers, including pediatricians, connected to the HIE and repository. Hospitals are already connected to the HIE for lab results.

VITL:
VITL operates the VHIE, supports the exchange, and serves as the sole REC for Vermont. VITL works closely with the Blueprint for Health in rollout planning, providing support in the form of interface services to bring hospitals and practices into the exchange. As part of its charter as an REC, VITL encourages the adoption of EHRs and is positioned to support the adoption of EHRs with selection and implementation help, down to the individual practice level.

1.10 Relationship of the State of Vermont's Medicaid Agency to the State HIT Coordinator

The State HIT Coordinator is directly accountable to the Governor and the General Assembly and is responsible for coordinating and convening multi-disciplinary input from broad HIT and HIE stakeholders. The Coordinator is also responsible for ensuring alignment and collaboration with ARRA funded programs across state government.

As noted, the State HIT Coordinator also directs the Division of Health Care Reform in the Department of Vermont Health Access, the state Medicaid agency. The Division Director/State HIT Coordinator works closely with the Director of the Vermont Blueprint for Health to ensure full integration of HIT-HIE policy and health care reform implementation. Since the State HIT Coordinator is a primary stakeholder in Health Care Reform, there are comments about this role and the associated organization included in the item 1.5 Stakeholder discussion above.

HIT-HIE is a significant state priority. In a time of budget challenges and staffing reductions, Vermont will be adding limited service positions to support these initiatives. Former Vermont Governor James Douglas served as founding Co-Chair of the State Alliance for e-Health. As such, Governor Douglas provided strong historic support for HIT-HIE initiatives in the state and its integral role in health reform.

Governor Peter Shumlin, who took office in January 2011, has introduced a comprehensive health reform agenda aimed at creating the first state-level Single Payer system. The initiative is designed to build incrementally upon the HIX infrastructure to be implemented in support of the Affordable Care Act (ACA) reforms. The Division will be state lead on development of the HIX which will, as noted elsewhere, fully integrated with the state Health Reform and HIT infrastructure.

Vermont's State Medicaid HIT Plan (SMHP) is not just be a "road map" for implementing the Medicaid provider incentive program; it is a three dimensional topographic map of the health care *and* Medicaid funded mental health, home health, long term care, and other human services delivery system infrastructure in its "as is" and "to be" states. As indicated throughout the *Vermont HIT Plan*, Vermont's strategic goals for HIT-HIE implementation and health delivery system reform are transformational. That vision is not limited to just professionals and hospitals eligible for Medicaid incentive payments, it extends to all Medicaid providers in Vermont, which essentially means all Vermont providers, given the high enrollment of providers in the Medicaid program.

It is part of that vision to ensure that all elements of the state's Medicaid programs, as well as other programs across the Agency of Human Services (such as WIC and Maternal and Child Health Bureau program, Food Stamps and heating assistance) and the clients they serve, are included in the communication framework enabled by the HIE network.

The Blueprint data repository is utilized by the multi-disciplinary community health teams that focus on the general population across medical homes; that IT infrastructure is being extended to support Medicaid's community-based care coordination personnel as they integrate more thoroughly into the Blueprint as it expands, and the state is considering whether to extend the platform further to support case management and care coordination of sub-populations served by AHS programs. The Blueprint registry or, depending on the specification and procurement process, something similar that links to it through the HIE will be used for consolidation of reporting across programs and departments, gathering feeds directly from service and provider settings and systems via the HIE.

Further, the ONC-HIE-PIN-001 lists seventeen activities that the Vermont HIT Plan considered: the first five were mandatory, the others were encouraged. These activities are also elements of the SMHP. Because of the integrated nature of state HIE oversight and policy development within the state Medicaid agency, coordination of many of these activities is "baked in" to the structure of the Division of Health Care Reform's approach to HIT-HIE. These activities are:

1. The state's governance structure shall provide representation of the state Medicaid program.

   Medicaid is at the center of the state's HIT policy governance structure. The State HIT Coordinator is a Director of Medicaid's Division of Health Care Reform, which is the both the recipient of Section 3013 ONC funding and Section 4201 provider incentive program funding.

2. The [ONC Sec. 3013] grantee shall coordinate provider outreach with the state Medicaid program.

   Medicaid and the Division of Health Care Reform have grants and contracts with VITL, which serves as both the State Designated Agency for HIE and the ONC funded REC. All provider outreach is integrated across the domains of the Blueprint, promotion of EHR adoption, implementation and upgrades for meaningful use, connectivity to the HIE, and participation in the Medical Home program. The Division plans to have a Medicaid specific Provider Relations specialist hired to support VITL and providers with technical

assistance related to the incentive program as part of the HIT Implementation Planning Advanced Planning Document (HIT – IAPD).

3. The grantee and the state Medicaid program shall identify common business or health care outcome priorities.

   Because the grantee is the state Medicaid program, which operates the Division of Health Care reform to implement business and health outcome priorities shared by Medicaid and the other payers participating in the Blueprint for Health multi-insurer reforms, priorities are aligned across domains of state government, private insurance, and the provider community around implementation of a robust, integrated HIT-HIE infrastructure.

4. The grantee, in collaboration with the Medicaid program, shall leverage, participate in and support all Beacon Communities, Regional Extension Centers, and ONC funded workforce for meaningful use.

   The Commissioner of the Department of Vermont Health Access, head of the state Medicaid program, and the Division of Health Care Reform Director & State HIT Coordinator have provided joint letters of support for Beacon applications, the REC, and ONC funded workforce applications. Both are fully committed to ensuring collaboration across the domains of health reform and HIT statewide.

5. The grantee shall align efforts with the state Medicaid agency to meet Medicaid requirements for meaningful use.

   The grantee is the state Medicaid agency and is also responsible for meeting Medicaid requirements for meaningful use.

6. Obtain a letter of support from the state Medicaid Director.

   The Division of Health Care Reform Director & State HIT Coordinator reports directly to the State Medicaid Director, the Commissioner of DVHA.

7. Conduct joint needs assessments.
8. Conduct joint environmental scans.

   The Division of Health Care Reform / Medicaid and VITL conduct needs assessments and environmental scans jointly and Medicaid maintains a statewide Master Provider Index.

9. Collaborate with the Medicaid program and the ONC-supported REC to provide technical assistance outside of the REC's federally funded scope of work.

   See 2. above.

10. Leverage public help desk/call center contracts and services between the State HIE Program, Medicaid, and the REC.

    Examination of this option is included in our SMHP opportunities list.

11. Conduct joint assessment and alignment of privacy policies at the statewide level and in the Medicaid program.

The Division of Health Care Reform will add a privacy policy specialist to the staff as part of its HIT IAPD request for funding authorization to represent Medicaid and the state in the on-going alignment of privacy policies and their impact on Medicaid. With the State HIT Coordinator, they will also participate in the VITL Privacy & Security Work Group.

12. Leverage existing Medicaid IT infrastructure when developing the HIE technical architecture.

    As described in Section 2 below, the HIE technical architecture is actually helping to leverage developments in the Medicaid IT infrastructure, providing unprecedented opportunities for better integration of Medicaid, public health, and HIE.

13. Determine whether to integrate systems to accomplish objectives such as making Medicaid claims and encounters available to the HIE and information from non-Medicaid providers available to the Medicaid program.

    This is actively being examined in building the specifications and requirements for the new MMIS system and its integration with the HIE.

14. Determine which specific shared services and technical services will be offered or used by Medicaid.

    Because of the high percentage of Vermont health care providers who are enrolled as Medicaid providers, Medicaid is taking the lead for development and maintenance of a shared Master Provider Index service that will support the state, the HIE, and the state's multi-insurer claims database. Other opportunities for integration between the HIE and Medicaid are under active exploration and will be further articulated in the SMHP.

15. Determine which operational responsibilities the Medicaid program will have, if any.

    Medicaid will administer the Provider Incentive program directly, and through its Division of Health Care Reform, has operational responsibility for the integrated project management of HIT, HIE, EHR adoption, implementation, and upgrade, achievement of Meaningful Use criteria, Blueprint medical home, community health team, and payment reform program domains.

16. Use Medicaid HIT incentives to encourage provider participation in the HIE.

    During the 2010 legislative session, the legislature considered and rejected a proposal to tie meaningful use incentives to provider participation in the HIE. However, Act 128 of 2010 does require hospital connectivity to the HIE as a condition of the hospital budget approval process.

17. Collaborate during the creation of payment incentives, including Pay for Performance under Medicaid, to encourage participation by additional provider types.

    Medicaid is a full participant in the provider incentive payment structure of the Blueprint Medical home and is exploring ways, through the Division's Director of Payment Reform, in which Medicaid, the HIE, and Blueprint can be leveraged as a part of more systemic payment reform that reaches the full provider continuum.

1.12 Potential Impact of State Laws or Regulations on the Implementation of the EHRIP

There are currently no existing or contemplated state laws or regulations related to the EHRIP.

1.13 HIT Activities that Cross State Borders

Item 1.6 above (HIT/E Relationships with Other Entities) included a discussion of interstate exchange of health information as it impacts Vermont, as well as a discussion of Vermont's involvement with NESCSO. No additional comments are required here. More detailed planning related to interstate HIE is anticipated for the 2011 edition of the VHITP, based on the regional work in the coming year.

1.14 Current Interoperability Status of the State Immunization (IZ) Registry and Public Health Surveillance Reporting Database

Comments in item 1.1 (EHR Adoption Rates) of this Section A above described the current status of Vermont's Health Department, including a discussion of an infrastructure grant recently received which will help to develop the bi-directional flow of information to the data repository over the HIE. In addition to that discussion, we note that this interoperability is embedded in one of four key state goals for HIE development and adoption, as follows:

IV. **Enable the Vermont Department of Health, the State public health agency to leverage HIT/HIE investments to monitor and ensure the public's health more transparently and quickly.**

Rationale: Public health agencies have a legal obligation to not only monitor the public's health but to respond to emergencies when they occur.

Current state: VITL is currently working with the Vermont Department of Health on the specifications to provide immunization records to the Department from provider practices. Subsequent phases will provide the immunization information back to the providers and expand the use of the HIE for reporting.

Plan:

- Provide bi-directional flow of data from providers to public health registries via the HIE
- Upgrade and modernize state IT systems to provide interoperable communication across state health and human service programs and providers.

Centers for Disease Control
As noted above, integration of the HIE with public health is a core goal of Vermont HIE policy. The Vermont Department of Health (VDH), as the statewide recipient of CDC funding, oversees several immunization programs as well as health surveillance for the State of Vermont. Within the Health Surveillance program activities include the monitoring, surveillance and control of chronic diseases and disabling conditions. The

Office of Public Health Preparedness within the Department of Health works with hospitals, healthcare providers, and others to respond to an array of public health emergencies including pandemics. The state is actively pursuing opportunities to integrate these programs IT systems with the larger AHS enterprise upgrades and connectivity to the HIE.

Consistent with the HHS and CDC vision for state level reporting flowing up through the PHIN and NHIN, full connectivity of VDH programs to the VHIE is a core component of the state vision for HIE connectivity. As a first step, VITL and VDH are currently testing submissions to the state Immunization Registry through the VHIE and will expand first to bi-directional immunization reporting and reading, then to the other registries maintained by VDH.

VDH and VITL are working with the state's hospitals on a hospital-acquired infection reporting initiative for the CDC leveraging the VHIE.

Also related to this topic, Act 128 of 2010 requires hospitals to connect to the Health Information Exchange to support the Blueprint and meaningful use. At a minimum, hospitals will transmit patient demographic information and lab results. Hospitals may also be involved with the transmission of lab orders, transcribed orders and results, continuity of care documents (CCDs), and immunization data. The interfaces that are required will be dependent on the business practices of the hospitals and the practices in their region the hospitals support.

Our final comment related to this topic of interoperability of the immunization registry and the public health surveillance reporting database has to do with the underlying structure of the HIE.

The Vermont Health Information Exchange uses a hybrid architecture, with some functions federated throughout the network and others centralized. For example, there is a central data repository for aggregating data from multiple sources participating in the Blueprint for Health initiative. Once the data is aggregated, it is transmitted to the Blueprint registry, which providers then access to analyze the aggregated data. Access to other data remains federated, with each health care organization assigned its own local repository. There is a master person index, which uses demographic feeds from each participating provider and algorithms to accurately match records located in the various repositories to a unique individual. Participating health care providers conduct a search for an individual in the MPI, and once the person is found, a list of available clinical documents for the individual is presented to the HIE user. The authorized user then clicks on a link to open the document, and if he or she wishes, can import that document into the organization's electronic medical record for the individual patient.

The Vermont Health Information Exchange became active in April 2007, with the first use being the delivery of electronic medication histories to ED physicians. The next use was electronic lab result delivery to physician EHRs, which commenced in the fall of 2008. By the end of 2008, the Vermont HIE was being used to aggregate data from the EHRs of physicians participating in the Blueprint for Health initiative (using the continuity of care document standard) and transmit that data to the Blueprint registry. The next phase of the HIE will be the implementation of bi-directional health information exchange between providers in a hospital service area, using the CCD. Once the initial implementation of bi-directional HIE has been accomplished, the service will be rolled out to providers across the state. Interface development is underway for the delivery of radiology reports from hospitals to physician practices, electronic ordering of both lab and imaging tests, and electronic reporting of immunizations to the Vermont Immunization Registry.

1.15 Other HIT-Related Grants

CHIPRA Quality Demonstration Grant
Vermont is working in partnership with the State of Maine to implement and evaluate CHIPRA Quality Demonstration grant activities in our respective states. Key grant partners in Vermont include the Healthcare Reform Division, Blueprint for Health initiative, and Health Services and Managed Care Division at DVHA and the Vermont Child Health Improvement Program, a quality improvement organization housed at the University of Vermont. These partners work in close collaboration to align CHIPRA grant activities with the SMHP and overall healthcare reform efforts in the state.

Under Category B of the CHIPRA grant, Vermont will expand the central clinical registry (DocSite/Covisint) to include clinical quality measures and other guideline based data elements to support healthcare delivery and population management in the pediatric population, focusing particularly in the areas of preventive services/Early Periodic Screening, Diagnosis, and Treatment (EPSDT) services; obesity; asthma; and attention deficit/hyperactivity disorder (ADHD). These topic areas were identified as the first set in a series of phased build-outs of the central clinical registry to support care in pediatrics due to their alignment with CMS and local priorities and due to the availability of standards and nationally recognized guidelines in these areas. Pediatric quality measures associated with the above topic areas that are required for Meaningful Use will also be built into the central clinical registry.

Vermont's CHIPRA grant has an impact on the state's HIT expansion because it exerts focus on the establishment of clinical quality measures in pediatric practices when practices are adopting or implementing EHR systems. Also under Category B, grant partners identified above will work closely with VITL as the state's HIE operator and REC to support practices in their adoption of EHRs and, once implemented, will work with the practices and EHR vendors as appropriate to enable data feeds for quality measures from EHRs in use to the central clinical registry. For practices that opt to use their EHR systems in place of the central registry, assuming certified technology, they will be able to attest to the EHRIP program if they meet threshold requirements.

Vermont's CHIPRA Category C work will help to support the provider-based component of the Blueprint expansion by supporting National Committee for Quality Assurance (NCQA) patient-centered medical home assessments in pediatric and family practices in the state. The 2011 standards, which will be used in assessments conducted later this calendar year, map onto a number of Meaningful Use measures, some of which are applicable to pediatric primary care settings. Cutting across grant categories, pediatric practice facilitators will generate practice-level performance reports in the central clinical registry, using the reports to drive quality improvement efforts in practices.
Although Vermont did not apply for Category A funding, we will be closely watching Maine's experience in testing and reporting on the CHIPRA Core Measures set, particularly those quality measures that overlap with Meaningful Use, for possible inclusion in the Blueprint data dictionary and central registry.

The above is an example of the close communication that exists in Vermont between various initiatives and partners and our ability to coordinate efforts for the progress of several complex initiatives at once. The CHIPRA grant staff and project participants take part in bi-weekly project status meetings with VITL, the Blueprint, the Division of Health Care Reform, and the Health Center Controlled Network-grant funded projects to ensure full integration of these closely related projects supported by multiple funding streams.

SECTION B: The State's "To-Be" HIT Landscape

II. The State's "To-Be" HIT Landscape:

In this section of the SMHP we describe Vermont's To-Be Landscape as it relates to Healthcare Reform (HCR), particularly Health Information Technology (HIT) and Health Information Exchanges (HIE). Topics included in this section are:

1. Specific HIT/E Goals for the next five years, including Health Information Exchange and Medicaid
2. IT architecture, including MMIS, for the next five years
3. Providers interface with SMA IT systems related to EHRIP
4. Governance structure for the next 5 years for HIT/E goals and objectives
5. Steps during the next 12 months to encourage the adoption of EHRs
6. Leveraging FQHCs with HRSA HIT/EHR funding to leverage adoption
7. Help to providers to adopt and MU EHR technology
8. Address special populations with EHRIP
9. Leverage other grants to implement EHRIP
10. Anticipated new legislation to implement EHRIP

These items are as specified in the SMHP template provided by CMS. As stated in Section A, before providing the specific responses to these topics, it is important to understand the larger context of HCR and HIT/E in Vermont. That context is established in the introduction to Section A under a heading called "The Vermont Environment" and the reader is encouraged to revisit that discussion.

2.1 Specific HIT/E Goals and Objectives Next Five Years

The State of Vermont has established Key State Goals for HIE Development and Adoption. Plans are also established for HIT Adoption across the state. Additionally, Legislative Language covers the Certified EHR Technology Loan Fund, which influences the key goals and adoption rates.

Key State Goals for HIE Development and Adoption

I. Encourage and enable the deployment of electronic health record systems within the state to increase the amount of available electronic health information. Provide the necessary support to enable proper use of this technology within practice settings.

Rationale: Automated health information exchange cannot take place efficiently without widespread deployment of electronic health record systems. But technology alone is not sufficient: clinical practice must be adjusted to ensure meaningful use of information technology.

Current state: Substantial investments have been made in EHR deployment by hospitals and physician organizations: an estimated twenty to twenty-five percent of physicians have selected, begun to implement or deployed EHR systems to date.

Plan:

- Support the creation of menus of tools and supports to broaden the support of EHR deployment to physician primary care and specialty practices.

- Coordinate funding to provide education and supports to help providers achieve meaningful use of their EHR systems.
- Encourage collaborations among entities deploying EHRs to accelerate deployment and support progress towards meaningful use.
- Encourage collaboration between the provider and higher education communities to support EHR adoption and meaningful use.

VITL has been selected as the state's Regional HIT Extension Center (REC) and has a separate, detailed ONC plan for REC activities.

II. **Establish and operate the infrastructure necessary to provide secure statewide electronic health information exchange to achieve the plan's vision.**

Rationale: A modern, secure information network can connect various health care providers and enable the flow of information among multiple organizations. EHR and ancillary systems shall comply with standards that promote their ability to exchange data with other systems through this infrastructure.

Current state: The basic infrastructure for electronic HIE is in place and clinical information is being transmitted between providers and to the Blueprint for Health data system. Policies governing privacy and security of information exchange on the state HIE have been developed and approved. Procedures to connect hospitals and clinicians to the HIE are not as streamlined and understandable as they need to be.

Plan:

- Refine business agreements to improve the ease of connecting to the HIE.
- Connect all acute care hospitals in the state to the HIE.
- Ensure that all EHR systems that are implemented are able to connect to the HIE using standard formats
- Provide all Blueprint data to the Blueprint Registry via the HIE
- Integrate and inter-connect Agency of Human Services programs and Departments with the HIE (as appropriate) through the implementation of a Service Oriented Architecture (SOA) to ensure data flow and system interoperability.
- Seek funding to support full EHR adoption and HIE connectivity for mental health, behavioral health, long term care, home health, and other individual providers, organizations, and institutions.

III. **Enable consumers to take an active role in their health care by providing access to their electronic health information.**

Rationale: Access to personal health information supports consumers' efforts to take more control over their own health by being better informed about steps that have been taken and steps that can be taken to improve their health. Consumers also have the right to view their records and ensure that they are used appropriately.

Current state: Stakeholder involvement, including consumers, was instrumental in crafting privacy and security policies. Consumer communication has been limited to date. No consumer access via the HIE though consumer access to several EHR systems' patient portals.

Plan:

- Collaborate with VITL and HIT stakeholders to build an explicit consumer communication and support plan, focused on privacy and security and the rationale to "opt in" to HIE as well as a public communication campaign kicked off by the Governor describing the benefits of HIT and HIE to Vermonters.
- Encourage the development of patient portals and interoperable connectivity to Personal Health Records
- Medicaid and VITL explore the potential implementation of a publicly supported PHR available to all Vermonters.

IV. **Enable the Vermont Department of Health, the State public health agency to leverage HIT/HIE investments to monitor and ensure the public's health more transparently and quickly.**

Rationale: Public health agencies have a legal obligation to not only monitor the public's health but to respond to emergencies when they occur.

Current state: VITL is currently working with the Vermont Department of Health on the specifications to provide immunization records to the Department from provider practices. Subsequent phases will provide the immunization information back to the providers and expand the use of the HIE for reporting.

Plan:

- Provide bi-directional flow of data from providers to public health registries via the HIE
- Upgrade and modernize state IT systems to provide interoperable communication across state health and human service programs and providers.

HIT Adoption

Rationale: From the outset, EHR adoption has been a critical factor in efforts to expand the use and value of the HIE. It is not possible to fully leverage health information exchange and clinical collaboration without an EHR.

Current state: The Vermont Health IT Fund and the preceding voluntary contributions to VITL supported EHR deployments beginning in 2007. Several Vermont hospitals have used new provisions in federal laws and regulations to help fund EHRs for physician practices in their service areas.

VITL has been selected as the Regional Extension Center for Vermont and is scaling up its capabilities to support 1100 providers to achieve meaningful use in the next two years. Over two hundred providers have signed up for services in the initial weeks of the program.

Plan: Successful, rapid deployment of EHRs in each Hospital Service Area will be based on collaborative planning among the Blueprint, the hospital, VITL and other resources in the state. Components of deployment will include:

- Practice Support for readiness, selection and change management
- Deployment Services – Establish relationships with entities in the state who are also working on EHR deployment to support implementation and optimization

- EHR Vendor Alignment
- Hardware Network support – Identify resources capable of assessing, deploying and managing secure, cost-effective networks and hardware in small physician offices
- Financing – Develop public and private loan and lease programs in conjunction to assist providers in managing the financial impact of the deployment.

Health Information Exchange and Medicaid

The VHIE network operated by VITL is currently supported by the ONC Section 3013 HIE Cooperative Agreement and the State Health IT Fund.

Consistent with Vermont's expansive vision for the VHIE to serve the full continuum of care, not just Eligible Providers and Eligible Hospitals, the State plans to extend HIE connectivity to all Medicaid providers. In the HIT IAPD, Vermont will propose a methodology for cost-allocation of a percentage of the on-going VHIE operational costs, as well as for support to build interfaces for secure clinical messaging via the HIE network to long term care, home health, mental health/behavioral health/substance abuse disorder providers electronic data systems.

Funding Sources for EHR Technology

VITL has worked with several banks in Vermont and financial products are being developed to assist providers in making their EHR purchases. It may be possible to have terms that would align payments with the receipt of EHR incentives.

2.2 IT Architecture, Including MMIS, for the Next Five Years

Vermont's architecture for the next several years is currently encapsulated in a few significant interrelated procurement processes. Specifically, the Core Components Project will establish a SOA-based architectural framework that will accommodate future system procurements, use SOA to exchange information more easily with legacy systems, and provide a pathway to MITA adoption. The Medicaid Enterprise System (MES) Project is the procurement project for Vermont's MMIS replacement. Another project for procurement is the Vermont Integrated Eligibility Workflow System (VIEWS) – a project to replace a legacy system of eligibility and enrollment management for all AHS public assistance programs called ACCESS (Eligibility System – the acronym refers to the function, not the name of this system).

What follows is a high-level overview of these architectural developments.

Service Oriented Architecture – Infrastructure Components

The Agency of Human Services (hereinafter called AHS) plans to procure and install essential components of a service oriented architectural design as a foundation for its enterprise architecture. Currently the AHS IT infrastructure is composed of discrete, siloed systems in an aging Information Technology architecture that can no longer support these programmatic needs. Technology is a key component of the charge to AHS to redesign its delivery systems to achieve a client centric approach in the "Challenges for Change: Results for Vermonters" January 5, 2010 report to the Joint Legislative Government Accountability Committee. Although redesign efforts have been organized around particular areas or target populations, we

can no longer rely on an IT strategy of working sequentially from project to project, hoping that an initial deployment can grow to serve other divisions or departments. Too often we found that solutions were unique and had been designed to fulfill a narrow niche and could not be easily expanded. We have opted instead for a redefinition of the underlying architecture of our technology solutions. This is particularly important in light of the innovative Medicaid demonstration projects and home and community based service delivery practices that the state has adopted in partnership with CMS. This includes two one of a kind 1115 waivers. The first, the Global Commitment to Health allows the state to use the flexibilities of a Medicaid managed care setting to deliver Medicaid state plan and other services. Global Commitment operations and information collection are embedded in every department of the Agency of Human Services. The second waiver, Choices for Care, affords consumers who need long term care a choice between nursing home care or a customized package of supports in their own home or community. Choices for Care requires coordination between Department of Vermont Health Access and the Department of Disability, Aging and Independent Living. These innovative Medicaid policy and operations efforts demand faster development of critical technologies, reuse of components across many departments and service types, and improvement in the maintainability of systems. These advances in information technology (IT) are necessary to support the goals of the programmatic areas involved in Federal and State Health Care Reform and Medicaid Operations as well as Vermont's legislative "Challenges for Change" initiatives.

The redesign relies on constructing an enterprise architecture for technology, information and the business of AHS. An enterprise architecture creates a roadmap that can provide guidance for future investments. It is built on the principles and products of a service oriented architecture (SOA) of common technologies and shared services that provide reusable components for various needs. For example, we intend to purchase and install one master-person index or one imaging solution that is configured for wide utilization across functional areas. A division or program will conduct a business process analysis; and, if imaging and unique identification of individuals, are required, the tools already purchased and installed will be used as part of the IT solution.

More importantly, by purchasing re-usable components, staff members' skills are transferrable and implementation times will decrease dramatically. In some areas projects that would have been scheduled sequentially, can be accomplished in parallel if resources are available. For example, a business rules component can structure and translate statute and policy that determine provider incentive payments for the Vermont Department of Health Access (DVHA) at the same time the component is being used to structure sentencing rules for Corrections. Over time, standard processes will decrease costs in many areas and support more effective business processes.

The components will include a transformation hub (TH) often referred to as a rules engine, an Identity Administration and Management (IAM) solution, a Workflow component (WF), an enterprise Master Person Index (eMPI) solution, and an Enterprise Services Bus (ESB). These components are briefly described below.

Component: Rules Engine/Transformation Hub (RE)

The rules engine solution must be designed, engineered and released as a tool to be used by business or financial related professionals for converting plain-language policy into

machine readable business rules, associated specifically with benefits/entitlements and other rules related operations. AHS is seeking a tool that can be configured to extract data from other systems, manipulate that data based on customized rules and will ultimately have the ability to send output data to other systems. The RE product needs to be user friendly to allow input of rules and policies by analyst-level people within business side (as opposed to software or business analytics experts) to organize and catalog for access by multiple systems using service orientated architecture (SOA) in support of operational and management processes. Examples of rules include: Provider Incentive Payments, Rate setting and Sentence Computation.

Component: Identity Administration and Management (IAM)

The Identity Administration and Management solution must be designed to allow the AHS enterprise to manage end-to-end lifecycle of user identities across all enterprise resources both within and beyond the firewall. It must permit the deployment of applications faster, apply the most granular protection to enterprise resources, automatically eliminate latent access privileges, and bring greater agility, better decision-making, and reduced cost and risk to diverse IT environments today. It covers issues such as how users are given an identity, the protection of that identity and the technologies supporting that protection such as network protocols, digital certificates, passwords and so on.

Component: Workflow Component (WC)

A workflow management system defines, manages, and executes workflows using computerized facilitation or automation of a business process, in whole or part. A workflow component will:

- Dispatch work and send notifications based on the pre-defined process.
- Manage the program/business process based on the organizational model –support for approval authority, delegation, and substitution.
- Manage deadlines and priorities.
- Support the reporting on workflow status.

Component: Enterprise Master Person Index (eMPI)

An Enterprise Master Person Index (eMPI) is a software application that identifies persons in a central repository for person/patient/client demographics and other assigned information as required. The solution assembles information around the individual, providing a real-time view identifying the person from virtually any point in our healthcare system. The eMPI provides many key benefits including:

- Eliminates duplicate and incomplete records
- Provides sophisticated algorithms for person-records validation
- Links to demographic and insurance information at all entrance points
- Integrates with other newer and existing technology (legacy systems)
- Provides value in weeks, not months
- Integrated with IDM solution

Component: Enterprise Services Bus (ESB)

The Enterprise Service Bus (ESB) is a centralized infrastructure component that makes a set of reusable services widely available and able to communicate with each other. These core functions are:

- Connectivity and Protocol support - Connects and talks to a wide range of services or data sources
- Data transformation - Can translate data from one format to another on the fly (e.g. XML to HL7v3)
- Combined services (Orchestration) - Allows the combination of existing services to create a new service
- Security - Can use existing security infrastructure to govern use of services

Medicaid Enterprise System (MES)

The State of Vermont's contract for MMIS and Fiscal Agent services is currently scheduled to expire in December 2012. The AHS IT infrastructure is composed of multiple, discrete, independent applications that overlap in functionality and service Medicaid beneficiaries. This aging Information Technology architecture creates operational inefficiencies and can no longer support the program needs of the State. We are seeking a robust and innovative replacement solution including an improved and modernized information system and associated operational services such as Financial Operations, Member Management, Pharmacy Benefit Management, and Care Management services. The new MES requires expanding the current concept of a traditional MMIS focused on claims payment to become a system that not only processes claims but is also able to process clinical and administrative data in order to provide a comprehensive view of all beneficiaries for all Federal and State healthcare programs administered by AHS. An RFP is currently about to be issued for this procurement and we anticipate awarding a contract in the summer of 2011.

Technology is a key component in the realignment of AHS business processes to achieve a member-centric focus of the Medicaid Enterprise which is captured in several State initiatives currently underway. As a result, AHS has developed a working version of the Enterprise Architecture that will modernize its information technology management and support capability.

AHS is the single State agency receiving Federal Medicaid payments made to the State of Vermont, and within AHS, the Department of Vermont Health Access (DVHA) manages the majority of the Medicaid programs. Other departments within AHS also participate in Medicaid program service delivery, policy and cost-sharing. AHS is composed of these departments:

- Department for Children and Families (DCF)
- Department of Health (VDH)
- Department of Corrections (DOC)
- Department of Disabilities, Aging and Independent Living (DAIL)
- Department of Mental Health (DMH)
- Department of Vermont Health Access (DVHA)

Department of Vermont Health Access

DVHA administers a variety of State and Federal programs that address the basic needs of Vermonters who are unable to completely provide for themselves and their dependents. Many of these programs are authorized under the Global Commitment for Care Waiver that the State of Vermont has from the Centers for Medicare and Medicaid Services (CMS).

DVHA strives to:

- Assist beneficiaries in accessing clinically appropriate health services.
- Administer Vermont's public health insurance system efficiently and effectively.
- Collaborate with other healthcare system entities in bringing evidence-based practices to Vermont Medicaid beneficiaries.

A brief description of the State's healthcare programs is listed in the table below:

Benefit	Program Description	Recipient
Medicaid	Medicaid is a health insurance program that provides low-cost or free coverage for low individuals.	73,000
Dr. Dynasaur	Dr. Dynasaur is a program that provides low-cost or free health coverage for children. Dr. Dynasaur incorporates within its coverage groups the State Children's Health Insurance (CHIP) program for uninsured children.	23,000
Vermont Health Access Plan (VHAP)	VHAP is a health insurance program for low income uninsured adults 18 years and older.	27,000
Prescription Assistance	The State of Vermont has several prescription assistance programs to help uninsured Vermonters and those with insurance, such as, Medicare pay for prescription medicines.	17,250
Choices for Care (Long-term Care Medicaid)	Choices for Care provides long-term care services at home, in residential care homes or in nursing facilities.	3,500
Catamount Health Premium Assistance Program	Catamount Health offers comprehensive, quality health coverage at a reasonable cost and is offered, in cooperation with the State of Vermont, by Blue Cross Blue Shield Vermont and MVP Health Care. Catamount Health is designed for Vermonters age 18 or older and families who are not eligible for existing state-sponsored coverage programs, and who have been uninsured for 12 months or more, or have recently lost their insurance because of a life change such as a divorce or loss of a job.	6,200

Table 2: Vermont Medicaid Programs

Vermont has two Section 1115a Medicaid Waivers. They are Global Commitment to Health and Choices for Care. These two waivers allow the State to increase the access to quality healthcare to the uninsured, the underinsured and Medicaid beneficiaries and require special reporting, unlike other States.

Global Commitment to Health Waiver

During the fall of 2005, the State received approval from CMS for a Section 1115 Medicaid Waiver known as the "Global Commitment to Health". The Waiver allows the State to fundamentally restructure the Medicaid program and imposes a cap on the amount of

federal funding available for acute care services for the Medicaid population. The State exchanged the risk of operating under a capped funding arrangement for the opportunity to expand services to other at-risk populations. Through this waiver, DHVA, DVHA was named to serve as a publicly-sponsored managed care organization to:

- Reduce the rate of uninsured or underinsured in Vermont.
- Increase the access of quality healthcare to uninsured, underinsured and Medicaid beneficiaries.
- Provide public health approaches to improve the health outcomes and the quality of life for the Medicaid eligible individuals in Vermont.
- Encourage the formation and maintenance of public-private partnerships in healthcare.

Vermont designed this 1115a waiver to put in place a series of health coverage options to achieve the goal of universal access to health in the State, while providing the flexibility necessary to administer its publicly supported healthcare programs in a beneficiary-centered and fiscally sustainable manner. The five-year Waiver term began in October, 2005 and allows the State to deviate from traditional federal Medicaid law and regulations in the following key ways:

- Imposes a global cap on federal funds.
- Establishes the State as a managed care organization.
- Allows the State to use federal Medicaid funds for state fiscal relief and non-Medicaid health programs.
- Provides flexibility to reduce benefits, increase cost sharing, and limit enrollment for optional and expansion populations with some limits.

Procurement related to system enhancements, such as claims processing and eligibility, are not included in the budget neutrality cap. Therefore, Vermont retains the opportunity to receive enhanced funding offered by CMS. Global Commitment to Health Waiver documents can be accessed at http://hcr.vermont.gov/financing/medicaid.

Medicaid Chronic Care Management and Care Coordination Program

The State is using the flexibility possible through the Global Commitment to Health Waiver to integrate a Chronic Care Management Program (CCMP) into a system of care that can be used to benefit Medicaid beneficiaries, providers, and DVHA. The purpose of the CCMP is to improve health outcomes and reduce costs for Medicaid beneficiaries with chronic health conditions.

DVHA's Care Coordination (CC) Program is a specialized program included under the CCMP umbrella. The CC Program is designed to integrate a specified plan of care implemented by a variety of service providers and programs under the direction of a designated professional employed by DVHA. Care Coordination teams assigned by the respective counties collaborate with local hospital emergency departments, primary care providers and community agencies to facilitate the care plan process.

Choices for Care Waiver

This 1115a Long-term care Medicaid waiver provides long-term care services to elderly or physically disabled Vermont adults with equal access to either nursing facility care or home and community-based services, consistent with their choice. The program assists people with everyday activities at home, in an enhanced residential care setting, or in a nursing facility. Providers are

Adult Day Centers, Area Agencies on Aging, Assisted Living Residences, Home Health Agencies, Nursing Facilities, and Residential Care Homes.

Other Relevant Programs and Departments

Green Mountain Care is a set of low-cost and free health coverage programs for Vermonters. Offered by the State of Vermont and its partners, Green Mountain Care programs provide access to quality, comprehensive healthcare coverage with no or low co-payments and premiums in order to keep out-of -pocket costs reasonable.

DVHA and the Department for Children and Families' Economic Services Division (DCF/ESD) cooperatively began processing premium assistance applications on October 1, 2007.

Because half of the 65,000 Vermonters who do not have health insurance qualify for existing state-sponsored health insurance programs, one overarching brand (i.e., Green Mountain Care) was developed to attract Vermonters to the full range of coverage options, including Catamount Health and the new premium assistance programs, as well as existing healthcare programs such as VHAP and Dr. Dynasaur.

For more information about Green Mountain Care see the website, http://www.GreenMountainCare.org.

Currently Outsourced Services

DVHA has contracted for a variety of services to assist in carrying out its mission. These organizations provide key services within the Medicaid Enterprise.

MAXIMUS Member Services

DVHA contracts with MAXIMUS, Inc. for member services. Since 1995, DVHA and MAXIMUS have collaborated to develop work plans, policies, procedures and systems to provide outreach, enrollment activities and member services to Medicaid beneficiaries. MAXIMUS provides helpline operations, outreach and education to potential enrollees, and assistance to those inquiring about Medicaid health programs.

Statewide outreach and educational activities include the dissemination of eligibility, enrollment and health benefits/program, Helpline, and Health Care Ombudsman Office information to beneficiaries and the general public.

MAXIMUS's member services activities support and assist members. These activities include assistance in resolving billing issues, understanding notice letters from the State, answering questions regarding premium payments or prior authorizations, and education of beneficiaries on other available services.

The current contract with MAXIMUS expires June 30, 2011.

Pharmacy Benefits Manager (PBM)

DVHA contracts with MedMetrics Health Partners of Worcester, Massachusetts as the Pharmacy Benefits Manager (PBM) for Vermont's programs. MedMetrics is a non-profit, full-service pharmacy benefit manager wholly owned by Public Sector Partners (PSP) and affiliated with the University of Massachusetts Medical School and the University of Massachusetts Memorial Medical Center. MedMetrics was selected as DVHA's PBM contractor through a competitive bid

process in 2005. The current contract with MedMetrics Health Partners runs through December 31, 2012.

MedMetrics performs the following services for DVHA:

- Accepting drug claims according to the rules of coverage under Vermont programs.
- Providing mechanisms to support the application of generic and alternative drug requirements authorized by Title 18, Chapter 91 of the Vermont Statutes.
- Transmitting program requirement messages to pharmacies as drugs are dispensed and claims are processed (e.g., eligibility verification, federal/state drug rebate requirements, coverage limitations, prior authorization needs, prospective and retrospective drug utilization review (DUR) issues, etc.).
- Managing the multi-state supplemental rebate program.
- Authorizing payments according to the reimbursement rules.

Claims are submitted by pharmacies enrolled to provide benefits in Vermont's programs. As of December 2008, 224 pharmacies were enrolled and processing claims.

The PBM has established a Retrospective Drug Utilization Review (RetroDUR) Program. This program provides information to DVHA which assists in the identification of patterns of inappropriate prescribing and/or medication use, alerts physicians to potential drug therapy problems, and makes recommendations to avoid drug therapy problems. The goal of the Vermont Medicaid RetroDUR Program is to promote appropriate prescribing and use of medications and is the shared responsibility of the MedMetrics Health Partners and the Vermont DUR Board. Monthly, specific drug classes are targeted for review under the program.

University of Massachusetts Medical School Center for Health and Policy Research

The State has procured the services of the University of Massachusetts Medical School Center for Health and Policy Research for population selection and program monitoring for the State's Medicaid Chronic Care Management Program (CCMP), including the Care Coordination (CC) program.

The objectives of this contract are to:

- Identify and assist beneficiaries with chronic health conditions in accessing clinically appropriate healthcare information and services.
- Coordinate the efficient delivery of healthcare to this population by attempting to remove barriers, bridge gaps, and avoid duplication of services.
- Educate, encourage, and empower this population to appropriately self-manage their chronic conditions.

Technology

The current technology environment is based on legacy applications focused on the business needs of each department. It evolved over time and integration was completed on an as needed basis. AHS is taking the opportunity to re-examine its technology and develop a plan that will make application and information integration and management easier by creating a standardized service-oriented architecture (SOA) environment.

The primary application for DVHA is the MMIS. HP (formerly EDS) has provided and operated the MMIS since 1994.

The following provides background information on the State's technology environment and its plans to modernize and enhance its technology infrastructure.

History and Background Information on Current MMIS

The MMIS is a host-based system that no longer has the flexibility, functionality or technical architecture to meet Vermont's future needs. Many processes and business functions rely on data that is captured, processed, stored and retrieved in independent databases and spreadsheets. Data exchanges are completed via File Transfer Protocol (FTP) instead of automated integration processes. Data for Medicaid beneficiaries exist within other AHS databases such as the Department of Aging and Independent Living's (DAIL) and the Department of Mental Health's (DMH). Since these records exist in different databases without automated data sharing or real-time data exchange across different processes within Departments, AHS is unable to have a member-centric view across the range of services provided by the State.

Additionally, many of the same business processes are being performed in multiple departments. Each department performs processes specific to its client-base or programs often using disparate systems to execute those processes.

Coordination among departments requires frequent communication via meetings, e-mail and telephone conversations. The use of individual MS-Excel and MS-Access applications to support business functions and meet reporting needs serves as a substitute for integrated IT applications and databases.

The legacy MMIS is the claims processing system for Vermont's Medicaid Program. In addition to processing claims, the MMIS also supports coordination of benefits, surveillance and utilization review, federal and management reporting, limited case management, and Member and Provider enrollment activities. The MMIS provides the basis for the administration of the Medicaid Program and captures payments to providers, services provided to members and specific eligibility information that can be accessed by providers. While the MMIS supports the Medicaid services for all departments, it is an independent application based on DVHA's business processes. Other Departments' also maintain systems for their non-Medicaid interactions, as well. HP provides Fiscal Agent services and manages the MMIS operation in support of the Medicaid program.

Related AHS Projects and Systems

In addition to the Medicaid-system projects described, AHS and its various departments are undertaking a number of technology and business projects which will result in significant innovations and upgrades to its information technology infrastructure and architecture. AHS has been scoping and defining Enterprise Architecture for the Agency to ensure future growth and efficiency needs are met. To this end, AHS is currently procuring foundational components consisting of an Enterprise Service Bus (ESB), Workflow Engine, Rules Engine, enterprise Master Person Index (eMPI) and Identity Management. By leveraging these components, AHS intends to realize an environment that supports service orchestrations and data sharing across the Enterprise. These components will need to be built upon and extended within the MES procurement

The Department for Children and Families (DCF), which is responsible for processing Medicaid eligibility determination, is involved in a project to reinvent many of its business processes called Economic Services Division Modernization (ESDM), as well as the Strategic Transformation of Enterprise for Effective Realignment (STEER) project which will implement technology improvements, such as, imaging and call center support.

The ACCESS System operated by DCF is the State's eligibility and enrollment system for all AHS public assistance programs including Medicaid. The system resides on a mainframe at the State's data center in Montpelier utilizing Software AG products. The underlying technology includes the ADABAS database management system and uses the Natural language. ACCESS currently transmits an eligibility file to the MMIS on a daily basis.

The ACCESS system is scheduled to be replaced within the next two years. The VIEWS RFP for a new eligibility system has been developed and will be released within the next year.

Existing Data Warehouse

The Central Source for Measurement and Evaluation (CSME) data is the existing data warehouse for AHS. Currently, this repository captures and presents information at an individual program level. One of the objectives of the data warehouse is to provide a view of an individual across all departments, including all services, authorizations and programs.

The MES will need to provide information to support the existing depictions and the future enhancements of this data warehouse.

Other State Initiatives

The State is a national leader in healthcare innovation. The following are important initiatives addressing the State's plans to improve and transform healthcare.

Blueprint for Health

The Vermont Blueprint for Health is a vision, a plan, and a statewide partnership pilot project to improve health and the healthcare system for Vermonters. The Blueprint provides the information, tools and support that Vermonters with chronic conditions need to manage their own health as well as information that doctors need to keep their patients healthy. The Blueprint is working to change healthcare to a system focused on preventing illness and complications, rather than reacting to health emergencies.

The Blueprint for Health is defined as the State's plan for a chronic care infrastructure, prevention of chronic conditions, and chronic care management programs, and includes an integrated approach to patient self-management, community development, healthcare system and professional practice change, and information technology initiatives. It is mandated to become a state-wide service that will encompass pediatric care with an incentive based payment structure.

One goal of the Blueprint is that Vermont will have a Chronic Care Information System (CCIS) that supports statewide implementation of the Blueprint for both individual and population-based care management. The Blueprint has entered into agreements with the Vermont Information Technology Leaders (VITL) for data services and with DocSite for the medical disease registry to provide access to information for physician's offices statewide. Populating the registry automatically with clinical data available in electronic format is essential to provider participation and use. Health plan data is essential to ensure completeness and accuracy of the information in the registry and evaluate Blueprint outcomes. Further information about the Blueprint initiative can be found at: http://healthvermont.gov/blueprint.aspx.

References to "managed care" as they exist in the SMHP document are not meant to refer to technical managed care programs or approaches. Rather, these references are used in the context of working towards desired or improved health outcomes for residents of Vermont. Using the Blueprint for Health as an example, outcomes have the potential and likelihood of being improved if analyses and reports on specific health concerns can be supported by accumulated clinical data.

Clinical data is gathered as a result of the existence of an HIE and repository, and is generated through adopted EHR technology from the provider source. This is a broad, systemic approach to achieving improved health outcomes, that is eventually actuated with focused provider/patient interactions, but is not managed care in the traditional sense of payment systems or patient panels.

In all cases in Vermont, for EHRIP purposes, Eligible Provider encounter data will be based on Medicaid patient interactions and supported by claims data available to us through our MMIS. Hospital Medicaid Inpatient-Bed-Days will similarly be validated from Hospital cost data reports filed with CMS and/or the State of Vermont.

Health Care Reform

A non-profit organization called Vermont Information Technology Leaders (VITL) is the state's health information exchange (HIE) and also serves as Vermont's Regional Extension Center (REC). The organization has established the state's health information exchange network and is also charged with the development of Vermont's Health Information Technology Plan. DVHA is an active participant in VITL efforts and the creation of the state plan.

VITL's vision of "a transformed healthcare system where health information is secure and readily available when people need it, positioning Vermont as a national example of high quality, cost effective care," reflects the state's comprehensive vision of HIT-powered health delivery system reform. In order to fully understand the scope of Vermont's HIT-HIE vision and the state environment, it is essential to understand the larger system reform agenda. Guiding legislation calls for a highly coordinated and integrated approach to healthcare statewide, with an emphasis on wellness, disease prevention, care coordination, and care management, and a particular focus on primary care.

VITL, in its role as the state HIE, facilitates the exchange of multiple types of transactions to allow access to clinical data, administrative data and patient demographic data. Healthcare data from the Medicaid information system and other systems that collect data on Medicaid clients will be an essential component of the State's HIE.

Additional information on VITL can be found at: http://vitl.net/.

Vision for the Future Medicaid Enterprise Solution

The State has developed a new vision for the future MES consistent with the State's Healthcare Reform Plan. The State is in the process of ensuring adequate, affordable healthcare for all of its citizens. As a result, AHS is rethinking its technology, business processes and information strategy in order to implement and support the Healthcare Reform initiatives. This process has spawned a number of agency initiatives and goals that shape this RFP. The State is seeking an innovative partner that can provide the knowledge, experience and resources to implement this vision in a cost-effective manner.

The following table presents the initiatives that are driving the new MES vision.

Table 3: MES Vision-related Initiatives

MES Factors		
Change	**Initiatives Underway**	**Vision**
Business Operations		
Improve Intra-agency coordination of services:		

1. Standardization of Business Processes	• VT MMIS Vision Sessions
	• DCF ESDM & STEER Projects
		• Common business processes should be consistent and done in the same manner
		• Seamless integration of applications / data
		  ○ One system OR
		  ○ Dynamic integration of data

2. Beneficiary-centric focus for care and information	• VT MMIS Vision Sessions	• Ability to obtain a single, complete, real-time view of any beneficiary
Provide cost-effective care to vulnerable citizens	• VT Blueprint for Health	• To become an Accountable Care Organization
Improved Management Reporting / DSS	• CSME Data Warehouse • VT MES RFP	• To access configurable Digital Dashboards for management and decision-making • To make decisions based on timely data
Consolidation of Purchased Services:		
1. Financial Operations (aka Fiscal Agent)	• VT MES RFP	• Timely processing and payment of claims • All healthcare provider payments will be recorded, tracked and reported on through the MES
2. Pharmacy Benefit Management	• VT MES RFP	• Improved Point Of Sale processing • Rebate Management, with one source of data • Maintain lowest price possible on pharmaceuticals • Support for providers / pharmacies / AHS

MES Factors		
Change	**Initiatives Underway**	**Vision**
3. Member Services	• VT MES RFP	• Member inquiry support • Grievance and appeal support • Ability to capture all member inquiry and activity • Tracking of calls and inquiries • Member education material • Healthplan / PCP assignment • Patient-centered Medical Home tracking / support
4. Care Management	• VT Global Commitment to Health Waiver (CCMP) • VT MES RFP	• Ability to identify patients who will benefit from intervention, education and case management • To track patients progress over time and focus on wellness and health • To employ data in disease management and care management
Federal / State Mandates		
Deploy the CMS MITA Framework	• MITA Self-Assessment • MITA Assessment Update • VT MMIS Vision Sessions	• Business and Technology are aligned with MITA Structure • Bring all business areas to a MITA Level 3 • Extend POS capability to other providers
Implement State Expansion of Coverage	• Global Commitment Waiver • Choices for Care Waiver	• To improve the health of Vermonters through support of those unable to provide healthcare for themselves and / or their families. • To see that 96% of Vermonters have healthcare insurance or coverage and access to services.
State Mandate for Cost Efficiency	• Challenges for Change	• Manage all Contractor relationships through performance-based contracts.
Implement HIPAA 5010 and ICD-10	• CMS Mandates and Federal Rules	• Implement HIPAA 5010 and ICD-10.

MES Factors		
Change	**Initiatives Underway**	**Vision**
Technology		
Adopt Service Oriented Architecture	• VT Components RFP • Draft Enterprise Architecture Plan	• All applications are interfaced to the State's SOA and utilize updated technology • Implement exchangeable, replaceable components
1. EMPI	• VT Components RFP • Draft Enterprise Architecture Plan	• Create a Master file for all members receiving healthcare services and all providers will be listed • All relevant AHS applications will interface with the EMPI
2.Identity Management	• VT Components RFP	• All future applications will integrate with the State Identity Management
3. Enterprise Service Bus (ESB)	• VT Components RFP	• All future applications will integrate with the State ESB
4. Rules Engine	• VT Components RFP	• All future applications will integrate with the State Rules Engine
5. Workflow Tools	• VT Components RFP	• All future applications will integrate with the State workflow management tools
VITL	• VITL	• Statewide HIE / HIT
DW / DSS	• CSME is the Agency's DW • MES solution to provide DSS	• Provide information to CSME • Provide a comprehensive reporting environment and sophisticated end-user analytic reporting tools.
Eligibility Determination and Data	• VT VIEWS RFP	• Eligibility data will be exchanged with the VIEWS system in real-time.

Vision for the new MES

The State of Vermont is expanding its vision of the Medicaid enterprise beyond the scope of a traditional MMIS.

The New MES will have additional functionality and flexibility when compared to the current MMIS.

Two current applications will continue to exist and interface with the New MES in the new EA environment. Although the fundamental enterprise infrastructure is not yet implemented, these systems have been identified by the state as capable of interacting with the common enterprise architecture. These systems are currently implemented and the technical specifications and can be readily made available for review by potential vendors. Table 2 briefly describes the applications and the business functionality provided by those applications.

Business Function	Description	Application Functionality
Call Center	Interactive Intelligence is in place in DCF and is configured for a major call center that supports the State's Economic Services department. This system was further expanded as a statewide government solution that was supported and sponsored by the Department of Information and Innovation (DII).	• Integrated Voice Recognition (IVR) • Integrated Facsimile (FAX) • Call Routing.
Data Warehouse	CSME is the AHS's official data warehouse. The MES will be expected to provide its data to CSME on a regular basis.	❒ Store and combine all member data such as eligibility, enrollment, claims, etc.

Table 4: Existing Business Functionality to be Exposed for New MES

In addition to the foundational components identified above, AHS is in the process of selecting and implementing additional components for its SOA structure. These additional pieces of the EA foundation are identified in the Table 3.

Business Function	Description	Application Functionality
Document Management System	Onbase by Highland Software is the current document imaging and document workflow solution. This solution is identified as SOA compliant but the scope will need to be expanded to accommodate new MES.	• Document Imaging • Document Management • Document Workflow
Care Management Registry	The Care Management Registry function is supported by DocSite.	❒ Clinical patient data for HIE / HIT
Enterprise Architecture and Services	The Request for Proposal (RFP) for these components was issued and the responses have been received and are being evaluated. The target for implementation of these components is Q2 of 2011.	• Transformation and Translation Services (Hub) • Enterprise Services Bus • Workflow Management • Enterprise Master Person Index (eMPI) • Identity Management

Table 5: Systems in the Advanced Planning Stage to be Used by the MES Vendor

The current Medicaid enterprise has several related EA systems to which the new MES may be expected to tie as it provides the fundamental components for SOA-based enterprise architecture.

MITA Principles and Vision

Over the past years, the rules and regulations involved in administering a Medicaid program have become more complex. This is especially true in the State of Vermont, where the State Legislature has implemented many innovative ideas to broaden the coverage available to all Vermonters. The MMIS currently deployed in Vermont is not able to easily accommodate the changes necessary to support this rapidly changing environment.

The existing MMIS is a legacy application that contains the following challenges:

- ❒ Highly interconnected systems using point-to-point interfaces require pervasive modifications to accommodate changes to business requirements, making them difficult to maintain.
- ❒ Users must navigate through multiple functional systems to perform a single task.
- ❒ MMIS does not communicate easily across functional or technical boundaries, which makes it difficult to share information or reuse functionality.

The State of Vermont will adopt CMS' MITA Framework in the MES to provide a common systems architecture foundation for Vermont to be able to advance their Medicaid system with current trends in technologies. DVHA completed its Medicaid Information Technology Architecture (MITA) State Self-Assessment (SSA) in 2008, as required by the CMS, and has established its vision for a new MES as defined by that process.

The new CMS vision for MITA is intended to foster integrated business and IT transformation across the Medicaid enterprise to improve the administration of the Medicaid program.

The requirements for the MES were developed using the MITA structure and Vermont is committed to using the MITA structure as the basis to design new systems and develop new business processes.

The following conceptual diagram depicts the future vision of the State MES within the guidelines provided by MITA.

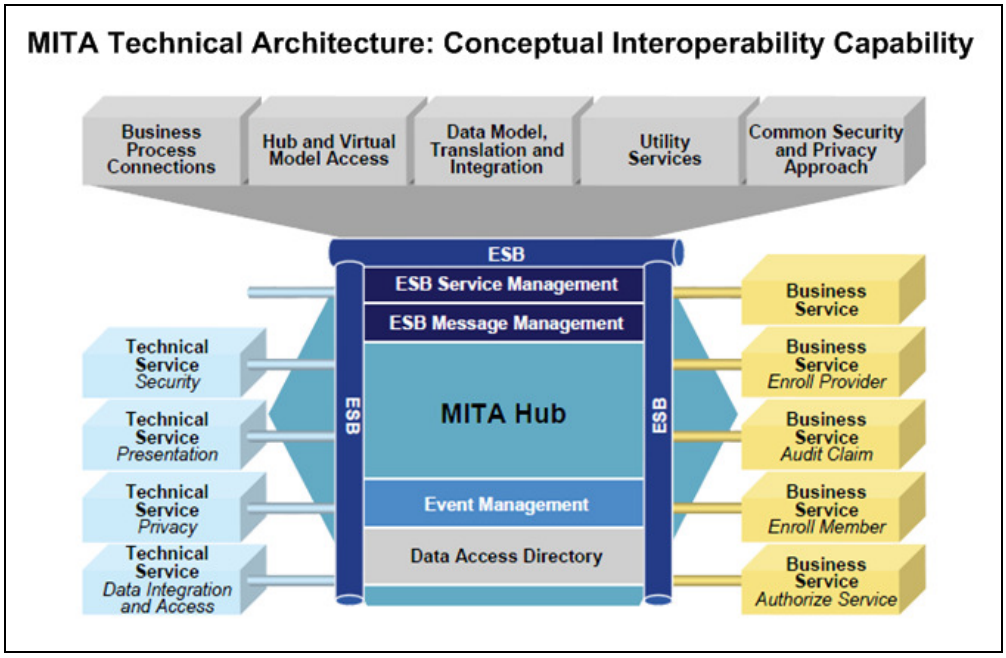


Figure 5: Conceptual Interoperability Capability

The MITA Hub architecture illustrated in Figure 5 above, using various ESB functions is the most mature means of transmitting and receiving services and information over an interoperability channel. The Hub offers security and privacy control points and the ability to locate utility services within the hub. Once the request is at the hub, the interoperable services may need to access information and services through virtual access, which makes the architecture scalable.

In order to alleviate the point-to-point interfaces, end-user navigational issues, and inherent difficulties of sharing information, and allow the reuse of common functions within the agency; the primary MITA principle is to establish a "services" approach to building out the new MES systems. The services approach most adopted over the past decade is better known as Service Oriented Architecture (SOA).

Service Oriented Architecture Vision

The state is well into its transition planning for SOA adoption and has identified several business functions and systems that will be incorporated into the new Enterprise Architecture. As a result, the new Medicaid Enterprise must operate in a SOA environment and be interoperable within the prescribed Enterprise Architecture.

The diagram below (Figure 6) illustrates a high-level diagram that passes information requests from various access channels through the system into the data access layer. This layer selects the requested data and utilizes services to display the information to the appropriate individual via the access mechanism. This diagram lists several business functions in the "Enterprise Business Service Integration" layer. At the core of the Enterprise Business Service Integration layer there are SOA capabilities, among other functions, orchestrating the integration activities being requested by service calls initiated by the customer.

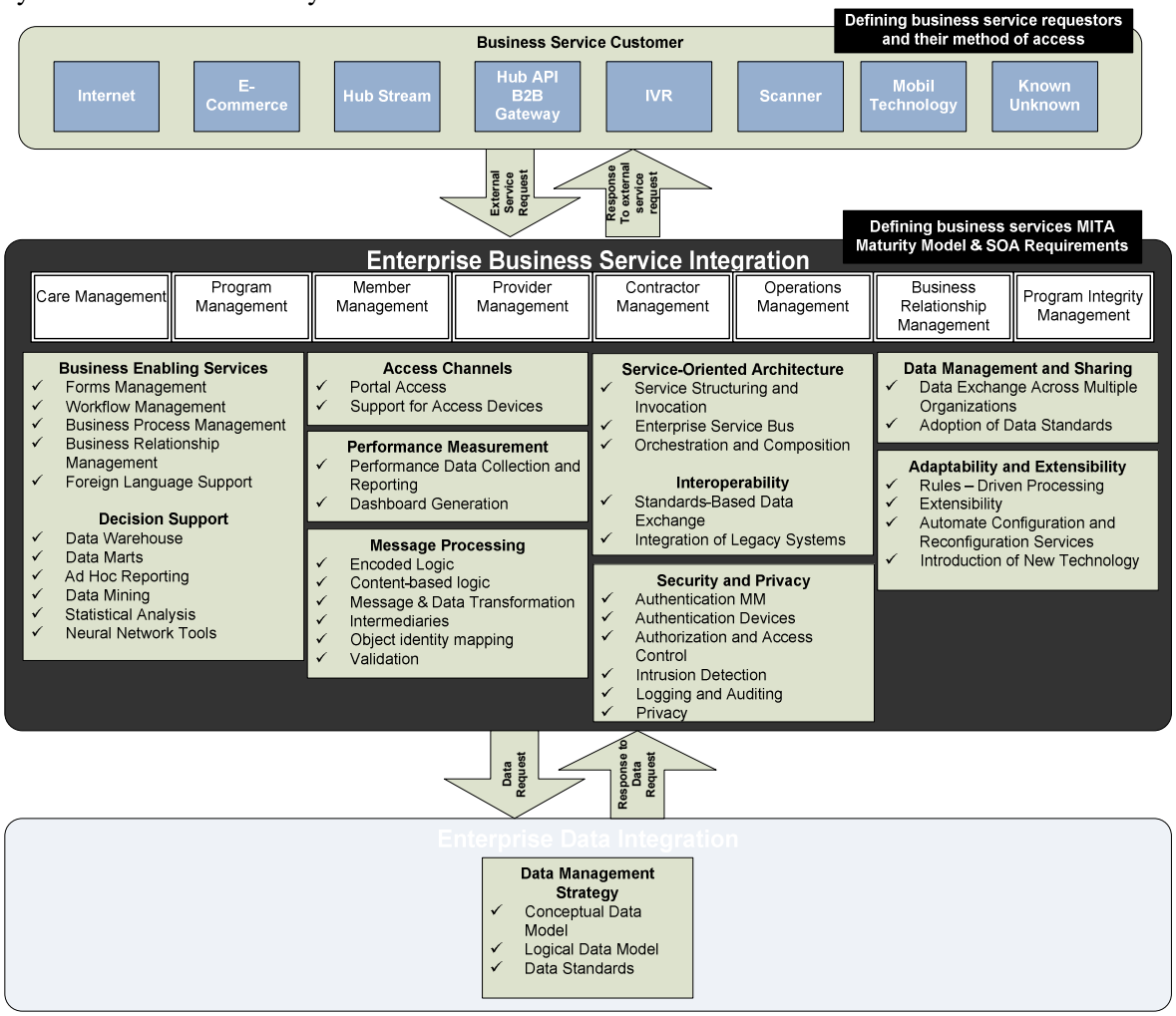


Figure 6: MITA Enterprise Business Service Integration Diagram

AHS is in the process of identifying common processes and functionality and describing how such functionality will be supported in a SOA environment. The common objectives identified thus far are:

- ❒ Systems tightly integrated across departments and programs (e.g., automated, standardized exchange of data).
- ❒ Web portals providing access mechanisms not only for AHS/DVHA but other internal and external stakeholders such as members, providers, contractors and vendors.
- ❒ Powerful imaging and document indexing and management capabilities.
- ❒ Workflow engines that support workflow and workload management, monitoring and

reporting.

- ❒ Rules-engines that facilitate rapid changes that can be made by "super-users" and require limited technical support.
- ❒ Predictive modeling and statistical tools for reporting, trending and analysis.
- ❒ Dashboards and other business-user driven reporting functionality.

Description of DW / DSS Vision

Within AHS there are multiple information systems that share common data elements in the MMIS environment. The need for data consistency for eligibility, benefits, reporting and performance management is critical to establish and maintain a master data management portfolio. A central repository or a centralized messaging component that allows for the sharing of data and/or timely exchange of data is desired in order to greatly improve the accuracy, efficiency and timeliness of business processes.

While MITA provides guidance and directions for data management, most Medicaid programs are at the early stages MM Level 1 in this category. Hence it is both a critical and opportune time to deploy a comprehensive Data Management Strategy for the State of Vermont to coincide with the implementation of a new MES system. This strategy allows the State to benefit from sharing consolidated, accurate data across departments, external partners and diverse technology platforms.

The State wants to strengthen their existing reporting environment by adding state-of-the-art tools and high quality data. The State envisions a multi-prong approach to reporting and decision support that includes the following components:

- ❒ CSME. The MES must supply the AHS data warehouse with routine, complete data. Reconciliation to ensure complete data transfers are the responsibility of the MES prime contractor with assistance from State staff. The MES vendor must resolve any discrepancies or errors that occur during the transfers and make recommendations for improvement to data quality.
- ❒ VITL. VITL is implementing the statewide HIE in phases. DVHA will be a major contributor to the HIE. The MES will provide VITL with data transactions on a schedule to be determined as implementation occurs. VITL transactions will include clinical data, administrative data and patient demographic data.
- ❒ MES. The MES must have a comprehensive reporting strategy to address the many Federal and State needs of Vermont. The MES is expected to employ data management strategies that will guarantee high quality data and make available all data elements for reporting. The reporting strategy must also provide end-users, including authorized State staff, the ability to easily generate their own reports without requiring intervention by MES technical staff. Therefore, the MES must provide:
    - A robust set of standard reports to support day-to-day operations and performance measure tracking.
    - The ability for authorized staff to generate ad-hoc reports using real-time data.
    - Data and reporting tools to support the creation of reports and supply information to assist staff in the management of each MITA Business Area.
    - Data and logic for administrative and clinical decision support tools.

- Tools to allow staff to generate dashboards in their areas to monitor program operations.
- Modeling tools to assist in developing new programs, budgeting and making changes to existing programs.
- Analytical tools to assist in monitoring programs, identifying fraud and abuse situations and proactively identify opportunities to improve processes and manage costs.
- Auditing and statistical tools to monitor provider claims and program performance.
- Multiple snapshots of production system to allow for business intelligence work.

The MES RFP objectives are outlined in the following diagram.

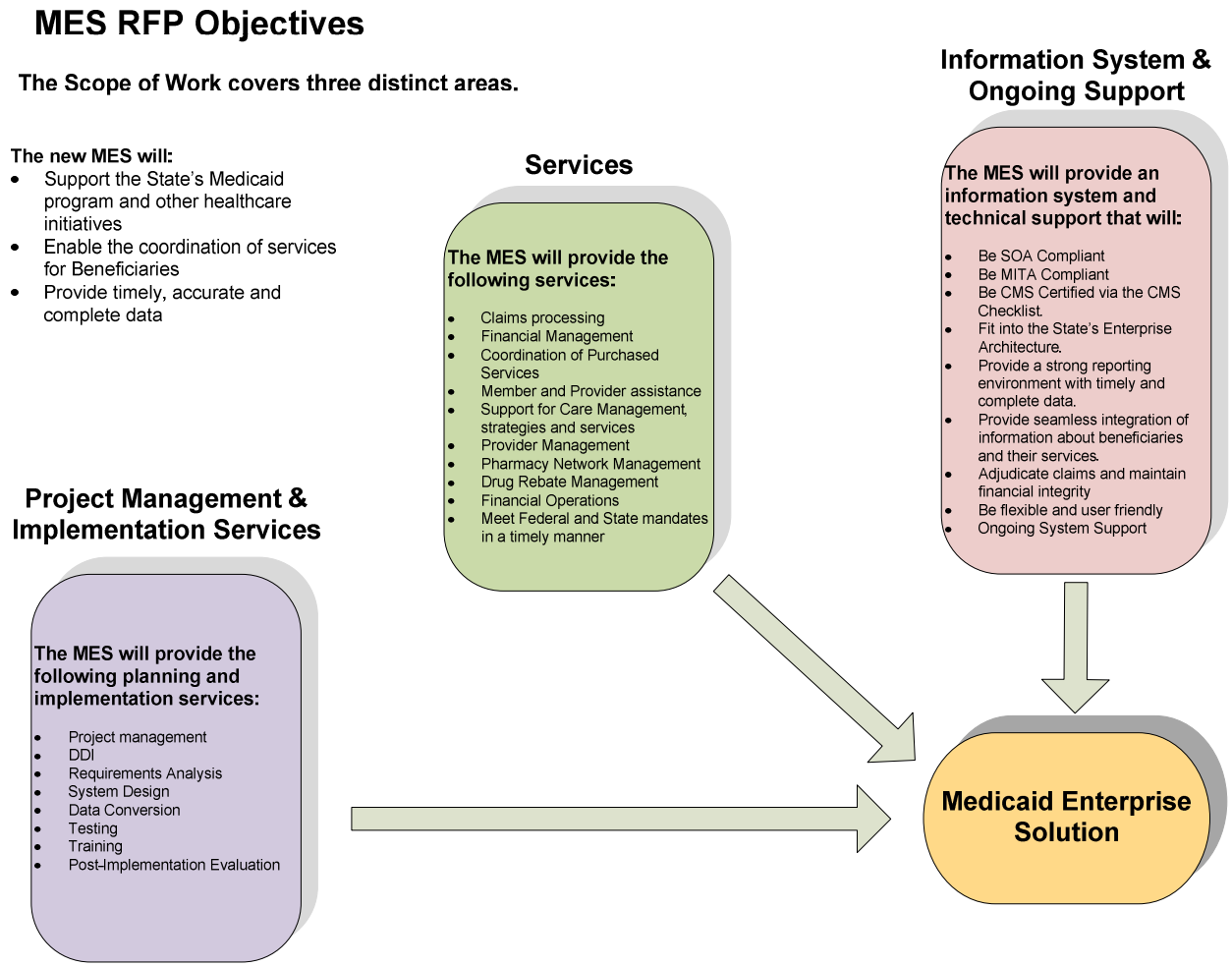


Figure 7: MES RFP Objectives

The Scope of Work includes high-level descriptions of Business Requirements, Information Architecture and Technical Architecture, Financial Operations, Care Management, Member Management Services and Pharmacy Management. Vendors must submit all responses using the

response forms in Section 7, and must address these high level descriptions and all the additional requirements included in Section 7.

AHS envisions the creation of a "Healthcare Enterprise" comprised of modern, responsive, interoperable systems that are integral parts of the AHS enterprise architecture. These systems support the vision for information technology with shared services and common technologies that can efficiently and effectively support provision of health care services to Vermonters. The Healthcare Enterprise is part of a larger IT framework and is designed to leverage the health information exchange being created by the Vermont Information Technology Leaders (VITL) initiative, which conforms to the Vermont Health Care Technology Strategic Plan, the Blueprint for Health, the Vermont Health Care Reform 5-Year Plan and AHS's IT Strategic Plan.

In addition to the specific Medicaid-system projects, AHS and its various departments are undertaking a number of technology and business projects which will result in significant changes to its information technology infrastructure and architecture. AHS has defined a new Enterprise Architecture in the Agency to ensure future growth and efficiency needs are met. The agency is committed to developing a true service-oriented architecture (SOA) environment. To this end, AHS is currently procuring foundational components consisting of an Enterprise Service Bus (ESB), Workflow Engine, Rules Engine, enterprise Master Person Index (eMPI) and Identity Management. By leveraging these components, AHS intends to realize an environment that supports service orchestrations and data sharing across the Enterprise. These components will need to be built upon and extended within the MES procurement.

Vermont is adopting the CMS MITA framework and is using it as the basis to design new systems, develop new business processes, and create the requirements contained within this RFP.

The MES Technical Environment

AHS seeks a SOA and MITA compliant enterprise that provides sound technology that is flexible and addresses current and future needs.

SOA Compliant Environment

The State of Vermont is expanding its vision of the Medicaid enterprise beyond the scope of a traditional MMIS. AHS has drafted the EA, a sophisticated plan that supports the new Medicaid enterprise with SOA. It is in the process of transforming its Medicaid operations into a service-oriented enterprise structure. The State has traversed part of this journey and has identified several business functions and systems as core components of the new EA. The MES will be a critical component of that architecture and must be compatible with the SOA environment.

A high-level representation of the architecture is depicted in the diagram below:

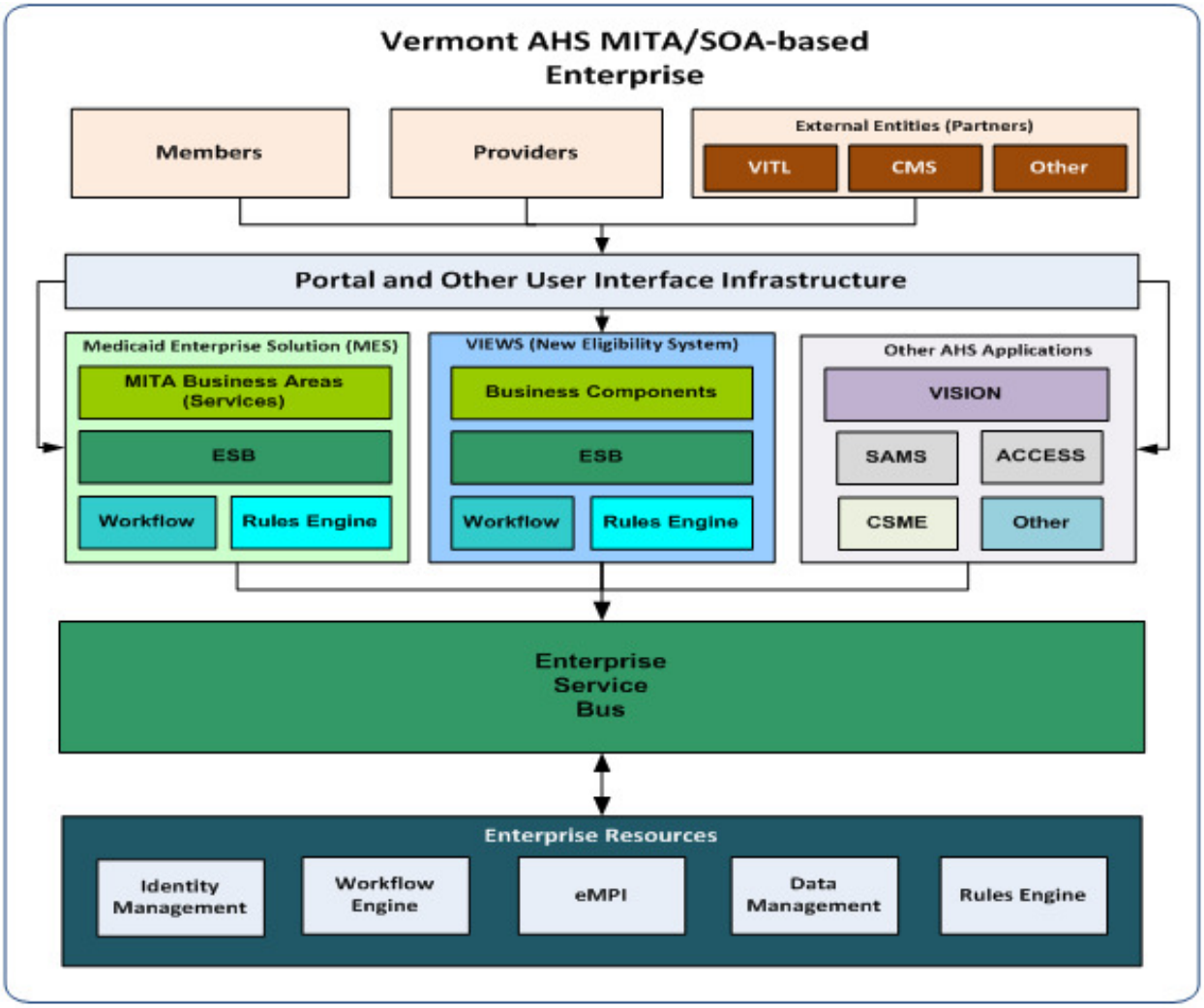


Figure 8: VT AHS MITA/SOA-Based Enterprise

The primary goal of AHS is to work toward integrating systems and processes across departments in an effort to streamline workflow, leverage resources, and achieve economies of scale. The State envisions a system that is adaptable, expandable and flexible. Potential vendors need to be aware that Vermont expects all incoming vendors, including the MES vendor, to build upon the foundational components already procured and put in place. By implementing fundamental platform services components such as an Enterprise Service Bus (ESB), Workflow Engine and Rules Engine, the State will be able to realize an environment that supports service orchestrations and data sharing across the Enterprise.

2.3 Providers Interface with State Medicaid IT Systems Related to the EHR Incentive Program

Providers who wish to receive incentive payments from the State of Vermont will need to register at the federal level and submit an application at the state level. A new National Registration &

Attestation System (NR&A System) has been developed at the federal level to allow providers to register for EHR incentive payments. The NR&A System will pass data to the states via a daily interface and states are required to support the application process and if appropriate, payment of EHR incentive to providers.

Vermont is one of several states participating in a multi-state collaborative in which the Commonwealth of Pennsylvania's Office of Medical Assistance Programs (PA OMAP) has taken the lead with HP Enterprise Services (HP) and other states with an HP MMIS, to build a new application. The application will have the capability to accommodate the payment provisions of the ARRA that relate to provider and hospital incentive payments for the adoption and meaningful use of an EHR system. HP is developing a core application that will interface with the NR&A System as well as individual States' Medicaid Management Information System (MMIS) to allow providers to complete applications and, if approved, generate EHR incentive payments. This application is known as the Medical Assistance Provider Incentive Repository (MAPIR).

The MAPIR system will be a stand-alone, web-based application capable of interfacing with any MMIS system. The MAPIR application is designed with the following functionality:

1. Interfaces with the NLR
2. Eligibility Verification and Notification
3. Provider and Hospital Attestation
4. Incentive Payment Calculation and Distribution
5. Appeals Tracking
6. User Interface for state resources to be able to view, monitor and support applications submitted by providers

The system will be phased-in over a period of two years and will have the flexibility to be modified to accommodate the reporting of new meaningful use criteria as CMS expands the requirements over the course of the incentive program.

The MAPIR application is to be developed by HP and tested with the NR&A System prior to implementation by individual states. CMS has agreed that once the MAPIR application has performed interface testing with the NLR, all states included in the HP multi-state collaborative will receive approval for interface testing. Vermont will test its connectivity with the NLR, via an approved protocol, before we will receive approval to launch our EHR Incentive Program within Vermont.

The HP multi-state collaborative was formed to work through all issues related to the development of an application to meet the requirements of the EHR Incentive Program in the most cost-effective manner. PA OMAP, with HP, outlined an approach, identified business requirements, created initial screen mock-ups and formulated a business and technical plan for execution. A steering committee of all the involved states has collaborated and approved of each step in the process. The Steering Committee has agreed to two releases of the MAPIR core product. The first core MAPIR release, targeted for February 14, 2011, encompasses the following:

- File exchanges to receive provider registration information from the NR&A System (B6 interface)
- Capability for states to integrate MAPIR into their provider portals and existing user management processes – allowing authorized providers to view their NR&A System registration information
- Provider information from the MMIS will be utilized for validating against NR&A System data

- Email notifications can be sent to providers using provider submitted addresses
- Eligible Professionals (EP) and Hospital providers will be able to view and validate their NR&A System data through a user interface
- State users will be able to view NR&A System data and provider submitted registration information through a user interface
- State specific data, such as summarized claim data and hospital cost reports, will be loaded and viewable in MAPIR by the State Medicaid HIT project office for validation against provider submitted application data

The second core MAPIR release, targeted for April 18, 2011, encompasses the following functionality:

- All additional file exchanges with the NR&A System (B7, C5, D16, D17, D18)
- EP and Hospital providers will be able to register, attest, and submit an application
- Calculation of estimated payment amounts
- Interface to the ONC Certified HIT Product List (CHPL)
- Payment determination will be made
- Duplicate payment checking will be performed against the NLR
- Payment transactions will be created in MAPIR to be sent to the MMIS or state payment system
- MAPIR will accept payment information from the MMIS
- Payment data will be sent to the NLR
- Reports and extracts will be generated from MAPIR
- State users may enter appeals status into MAPIR via a user interface

The functionality of each of these releases may be adjusted to accommodate NR&A System testing and interface availability.

Once the core MAPIR is released to Vermont, it is available for interfacing or integrating into Vermont's MMIS enterprise. Vermont's implementation timeline for MAPIR is dependent on custom development as well as EHR program readiness and CMS approval. A Vermont custom Implementation Advance Planning Document (IAPD) will be submitted identifying the costs and timeline associated with custom development. Vermont staff are currently working with our HP development staff to develop the design and development estimates necessary to complete this work.

The graphics on the following pages provide an overview of the MAPIR concept as well as a summary view of the Medical Assistance (MA) MAPIR Eligible Provider and Hospital application flows.

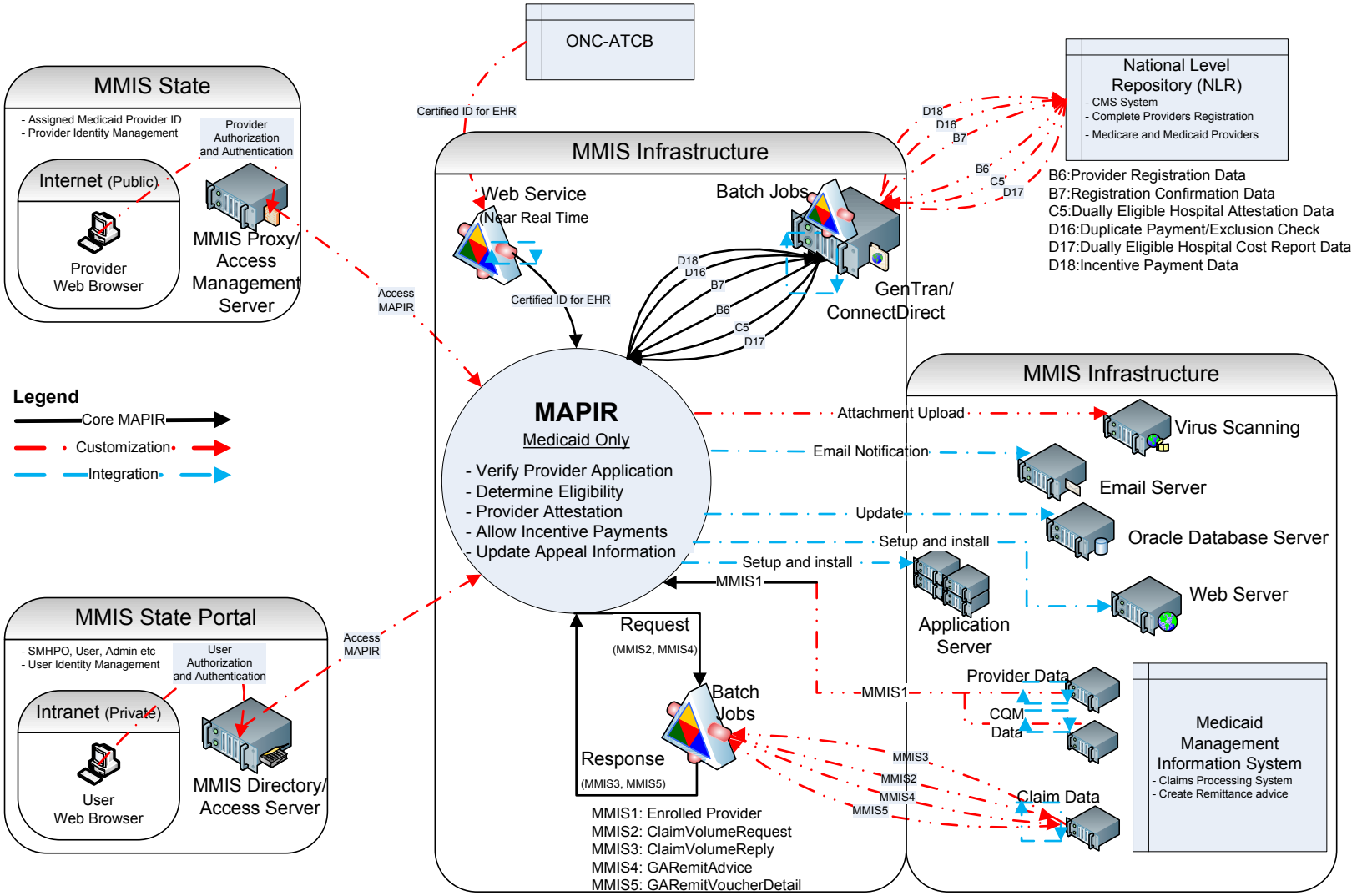


Figure 9: MAPIR Concept Diagram

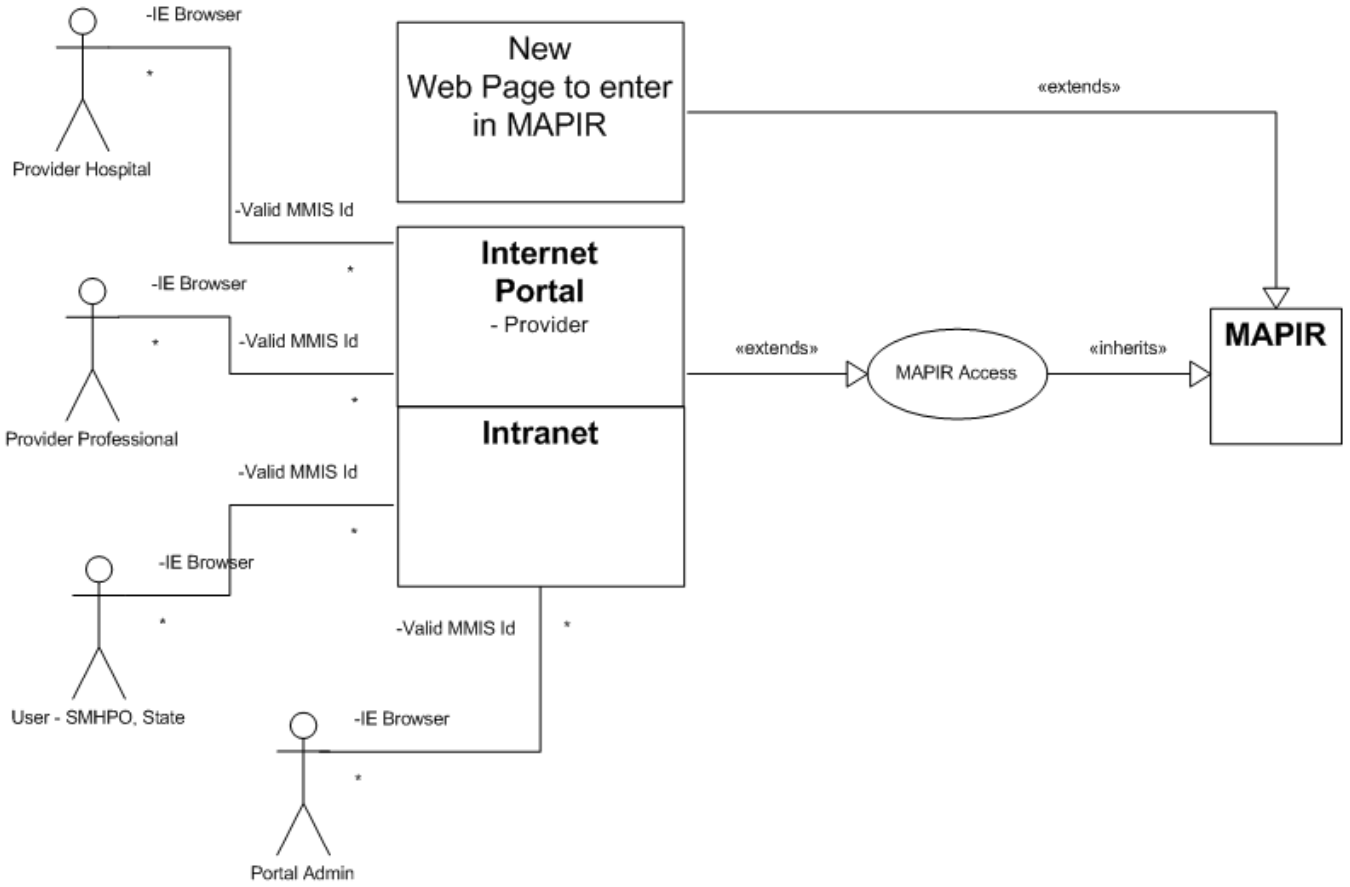


Figure 10: MAPIR Portal Configuration Diagram

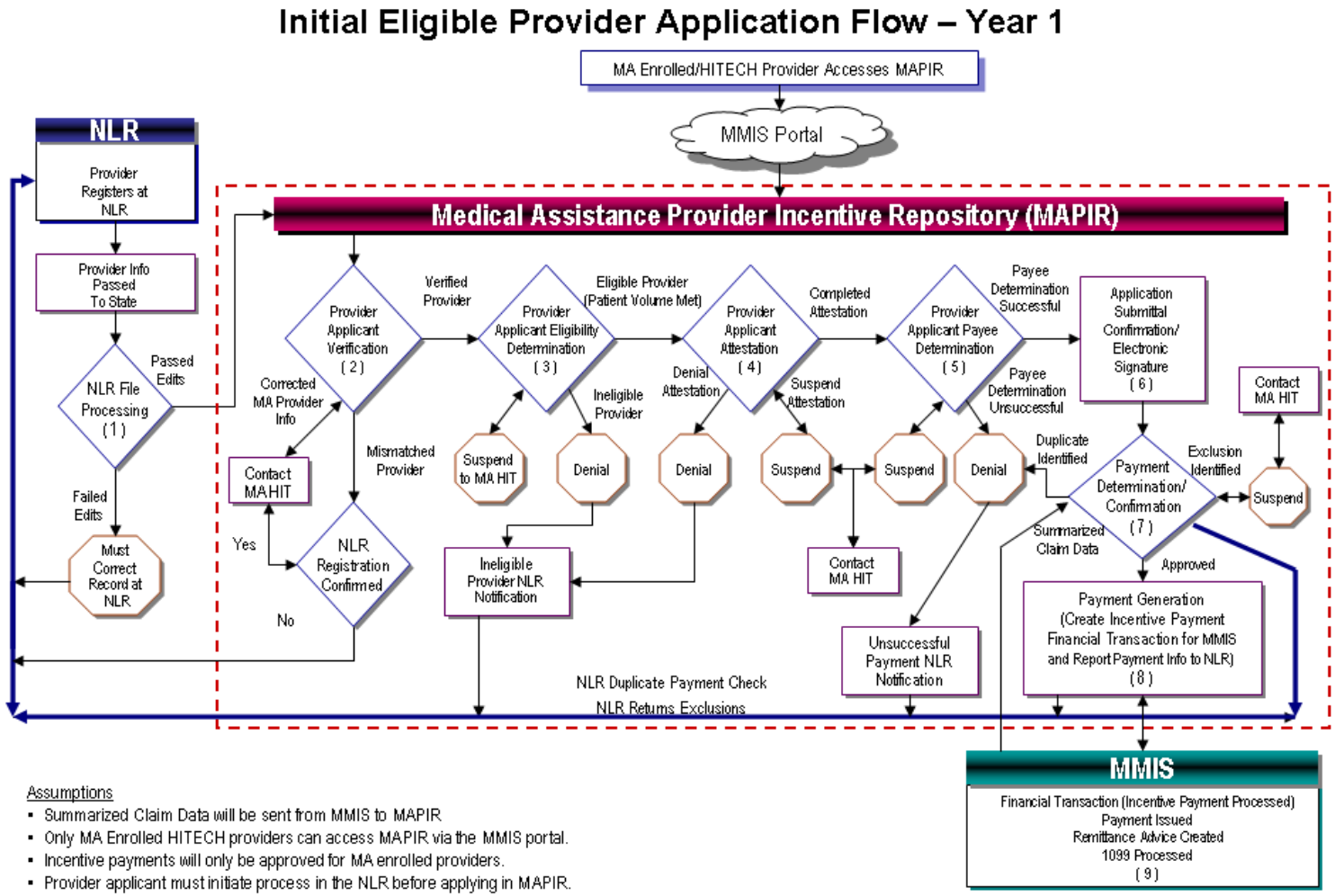


Figure 11: MAPIR Initial Eligible Provider Application Flow

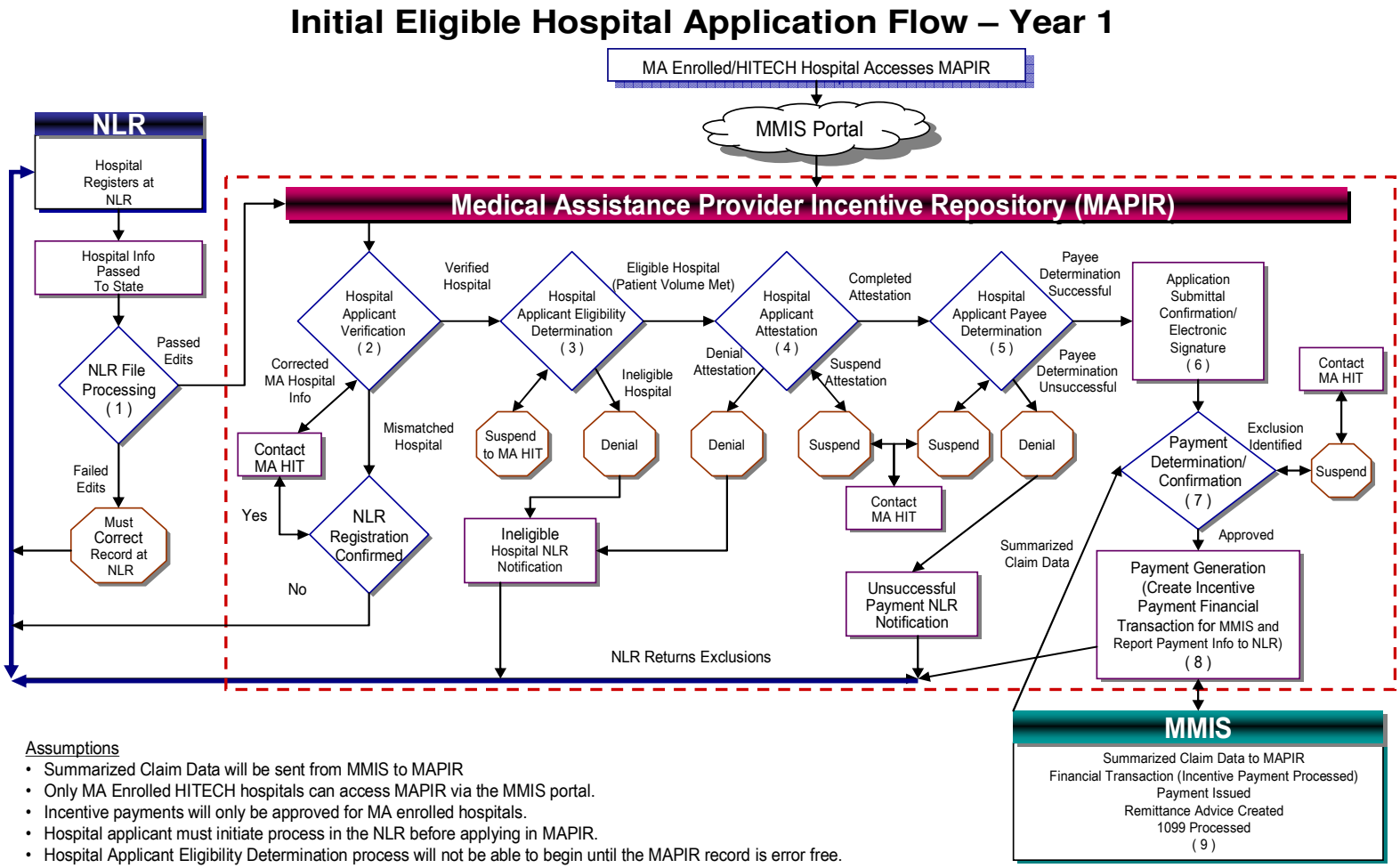


Figure 12: MAPIR – Initial Eligible Hospital Application Flow

2.4 Governance Structure for the Next Five Years for HIT/E Goals and Objectives

Governance Considerations - Five Year View

Vermont is well positioned to implement a good governance structure for the EHR Incentive Program as it evolves. The specific elements needed for EHRIP governance will be a subset of many of the governance elements already in place. Vermont's history with healthcare reform has led to the development of several governance components that have been established before the passage of both the ARRA-HITECH and ACA acts. Even though these specific opportunities were not anticipated in the development of some of these governance components, Vermont is now in a favorable position with respect to governance.

Enabling legislation provides the authorization for governance of healthcare reform in Vermont. It establishes the organizational responsibilities and authorities and also specifies objectives, measurements, and reporting requirements, in addition to providing the necessary funding mechanisms. A lead organization – The Department of Vermont Health Access – is the organizational center of healthcare governance for the state. DVHA takes the lead in negotiating and managing contracts for significant healthcare components, including the HIE, the REC, and a supporting data repository. DVHA, through the Division of Health Care Reform, also takes the project management lead in the major IT activity, including a Core Components project establishing a SOA-based infrastructure, an MMIS replacement project, an eligibility system replacement project, Vermont's participation in the MAPIR project, and the development of a Provider Directory for Vermont.

It is significant to note that DVHA also serves as the State Medicaid Agency for Vermont. Having the Division of Healthcare Reform embedded in DVHA provides an organizational (and in our case – a co-located) cohesion between existing SMA functions (administrative, business office, data services, oversight, auditing, privacy and security) and the requirements of new programs such as EHRIP. DVHA's dual roles of Medicaid administration and Healthcare Reform allow for and require frequent contact, discussion and planning with other healthcare related activities in the State, including the Vermont Department of Health and the State Agency responsible for insurance oversight and the development of Vermont's Insurance Exchange (BISHCA – Department of Banking, Insurance, Securities & Health Care Administration).

This overview of Healthcare Governance in Vermont is expanded on below. Vermont's State HIT Plan, recently approved by ONC and CMS, included a complete description of governance as related to the HIE. That description is incorporated into the Section A "As-Is" portion of this document, specifically in items 5 and 7 of that Section. Important to note from that description are these points:

- Vermont has a collaborative Governance Model
    - VITL has a pivotal role in Vermont's healthcare reform activities, as both HIE operator and our single REC. VITL's formation was marked by substantial stakeholder involvement, which is still reflected in the composition of VITL's board representation of government, consumer, and stakeholder interests. Policy coordination and oversight is placed with the state, led by the State Government HIT Coordinator. Vermont's governance structure reflects and integrates with the federal HIT/E policy structure enacted in the HITECH Act. Vermont's Act 61 requires the state to produce and annually update a state HIT Plan that mirrors the requirements and process placed on ONC for the federal HIT Plan.
- State HIT Coordinator

- The State HIT Coordinator is directly accountable to the Governor and the General Assembly and is responsible for coordinating and convening multi-disciplinary input from broad HIT and HIE stakeholders. The Coordinator is also responsible for ensuring alignment and collaboration with ARRA funded programs across state government. The role of the HIT Coordinator is further described in Section A of this document. That description includes a brief discussion of staffing for this effort.

- Accountability and Transparency
  - Accountability, transparency, and engagement with the public is a longstanding Vermont tradition and is codified in Section 8 of Act 61 of 2009, which requires that the state shall consult with and consider the recommendations of a number of specifically identified stakeholders (see Section A for a full listing).
- Public Engagement, Communication, & Outreach
  - Significant outreach occurred in the development of Vermont's HIE and the establishment of VITL. Broad consumer engagement since then has been limited as attention was focused on the early implementation efforts of the HIE. With new ARRA resources, as well as state and federal health reform initiatives, particularly the statewide expansion activities of the Blueprint for Health, Vermont is now positioned to initiate a major consumer outreach campaign. The outline of such a campaign is described in Section A of this document.
- Financial Sustainability
  - Per 32 V.S.A. chapter 241 § 10301, Vermont collects a fee (2/10ths of 1%) on all health insurance claims that generates annual revenues for the state Health IT Fund which then provides grants to support HIT and HIE. While the Fund sunsets in 2015, it will provide substantial capacity to match federal funds available through both ONC and CMS to provide for the statewide build out of the HIE infrastructure. Further discussion of this topic is in Section A of this document.
- Legal/Policy
  - Privacy and Security – VITL developed a set of six privacy and security policies to govern the operation of the HIE. These policies are consistent with federal and state laws and regulations, and reflect the privacy principles in the HHS Privacy and Security Framework. The State HIT Coordinator is convening a new Privacy & Security Work Group to establish a continuous improvement process for existing policies. Further discussion of this topic is included in Section A of this document. However, for this "To-Be" Section of the document, we note that preliminary issues on the docket for this Work Group over the coming year include:
    1. 42 CFR Part 2 and recent SAMHSA FAQ on same that requires adjustment to current policy related to exchange of alcohol and substance abuse records;
    2. Discussion about exchange of minors' health information (particularly because of the different approaches our neighboring states have taken);
    3. Restriction on the exchange of information from self-pay encounters (raised by sections of the HITECH Act);
    4. The federal Data Use and Reciprocal Support Agreement (DURSA) for use with the National Health Information Network; and
    5. Closely related to 4, the general subject of interstate HIE and cross-border issues that arise from differing state privacy and security policies and legislation.

    Process steps for the Work Group include:

1. Identifying members through solicitation at the HIT/E Stakeholders monthly meetings, via the HIT Coordinator's regular e-Updates, and direct outreach to stakeholder groups and interested parties;
2. Convening the first meeting before year end;
3. Hiring a State Privacy Specialist;
4. Conducting monthly meetings;
5. Making recommendations to the State HIT Coordinator and DVHA Commissioner (as needed based on meeting outcomes, with reporting to the commissioner and Stakeholders via State HIT Coordinator's e-Updates quarterly);
6. Developing potential legislation;
7. Introducing legislation, if any;
8. Continuing monthly (or possibly bi-monthly meetings) as needed for at least the next two years.

Planning elements related to Privacy and Security include:

1. Coordinate adoption of privacy and security policies and procedures with all health systems in the state as part of HIE deployment;
2. Create easily understood material to support opt-in consent procedures required by state law;
3. Work with neighboring states to facilitate interstate HIE in conformance with state laws;
4. Create limited service position at DVHA with responsibility for oversight of HIE Privacy & Security policies and staffing of the state Privacy & Security Work Group.

- State Laws – The process to develop HIE Privacy and security policies included a legal review of all applicable state laws. Policies were written to ensure compliance. Because Vermont's privacy law is more strict than HIPAA, it was determined that Vermont must use an opt-in model for HIE. That model is reflected in the policy on patient consent. At this time, there are no plans to modify state laws. Comments on Vermont's efforts to work with neighboring states and to remain consistent with federal developments on privacy and security are included in the governance discussion in Section A of this document.
- Policies and Procedures – As mentioned, VITL's board of directors has adopted a comprehensive set of six privacy and security policies and agreement, including: 1) Policy on Participating Health Care Provider Policies and Procedures for the VHIE, 2) Policy on Patient Consent to Opt-In to VHIE, 3) Policy on Secondary Use of Identifiable PHI on VHIE, 4) Policy on Information Security, 5) Policy on Privacy and Security Events, and 6) Policy on Auditing and Access Monitoring. The policies are currently in use by hospitals in multiple Vermont hospital service areas as models for HIE among providers in those communities and will be deployed statewide as the VHIE is built out in calendar 2010. A set of model policies and agreements is part of the "implementation toolkit" provided to al practices and institutions working with VITL.
- Trust Agreements – From the beginning the Vermont HIE Network has required that business associate agreements and contract terms be signed with each participating organization. In fact, technical work does not begin on an interface or other project until the agreements have been signed by all parties. These agreements spell out in detail how data is to be used between organizations. Our plan is to leverage current agreements to facilitate statewide expansion and work with counterparts in adjoining states to develop agreements in conformance with other state law, policies, and procedures.

- Oversight of Information Exchange and Enforcement
  - Vermont statute 18 V.S.A. chapter 219 § 9351 (f) requires that Vermont HIT and HIE programs "shall be consistent with the goals outlined in the strategic plan developed by the Office of the National Coordinator for Health Information Technology and the statewide health information technology plan." In the event that providers, individuals, or other entities are not compliant with state and federal policy, the state ahs the option to pursue enforcement. Act 61, enacted during the 2009 legislative session, provides several compliance mechanisms including:
    - Sec. 5. 18 V.S.A. § 9437 gives the commissioner of Banking, Insurance, Securities, and Health Care Administration the authority to require that the Certificate of Need (CON) application for a large hospital HIT project "conforms with the health information technology plan established under section 903 of Title 22….";
    - Sec. § 9352 authorizes VITL to require that Health Information Technology systems acquired under a VITL grant or loan comply with data standards for interoperability adopted by VITL and the state health information technology plan;
    - Sec. § 9352 also authorizes VITL, following federal guidelines and state policies, if enacted, to certify the meaningful use of health information technology and electronic health records by health care providers licensed in Vermont. Without meaningful use certification, providers will not qualify for the Medicaid incentives created in the ARRA/HITECH act.
  - The VHIE NETWORK privacy and security policies contain a procedure for dealing with individuals and organizations that are not compliant with the policies. Sanctions may include permanent exclusion from participating in the VHIE. The legal analysis does note that in the event that an individual has a compliant relating to the use or disclosure of his or her protected health information, a professional grievance against the health care provider or facility responsible may be submitted for review by the licensing authority of that provider or facility. The analysis also points out that "The Secretary of the US Department of Health and Human Services also has the authority to impose civil monetary penalties as set forth in 45 CFR §160.404 as amended by HITECH Act § 13410 and which extends enforcement to State Attorneys General."

2.5 Steps During the Next Twelve Months to Encourage the Adoption of EHRs

The next 12 months will be a time of substantial activity in Vermont related to the adoption of EHRs in the state.

A new agreement is in place with our repository provider, and includes performance based expectations for the supported training provided by that vendor to practices and providers to populate the repository as a byproduct of their EHR adoption. This vendor works in parallel with the Blueprint for Health in meeting targets for Blueprint implementations in Hospital Service Areas across the state. The repository database has an accompanying web interface to provide basic EHR functionality to practices not yet positioned to make their own technology implementations. Targets during the next twelve months call for a doubling of the number of sites with active access to the repository, from 50 to 100; an increase in the number of Practice Based providers from 312 to 600; an increase in the total number of providers with active access (includes Practice-Based

Providers and Community Health Team members) from 330 to 700; an increase in the total number of conditions/modules fully functional from 5 to 12; and an increase in the number of sites having completed work to optimize use of the data dictionary from 3 to 50.

The Blueprint for Health has a goal to have two practices in each Hospital Service Area in the state active by July of 2010. This program is on track to meet this goal, having recently hired and trained the facilitators who will work with practices throughout the state. The more ambitious goal is to have all willing providers participating in the Blueprint by July of 2013. That, too, is a planned and realistic goal.

VITL too has performance expectations related to the Blueprint for Health rollout, as well as for supporting the EHR Incentive Program. As the operator of the HIE and of the VHIE, VITL is a central focal point as we connect Blueprint practices to the Repository. As the State's REC, VITL works directly with Practices and Providers to establish signed agreements for the development and implementation of EHRs. In this work, VITL helps the practices not only physically connect their practices to the Exchange and the Repository, but also works with them to establish the meaningful use measures they will track and report on, as attestations, to achieve meaningful use and qualify for incentive payments.

Also in Vermont, the Bi-State Primary Care Association has been awarded a grant (HRSA HIT/EHR funding) to provide the implementation services for eight FQHCs in the state. As this work is being executed, Bi-State will work closely with both VITL and the Blueprint Project teams to coordinate this work with the other activities already mentioned.

In September of 2010 VITL held its third HIT conference in Burlington VT. This conference was well-attended by a cross-section of stakeholders in HIT/E and healthcare reform in the State of Vermont. The opening keynote address, by ONC's Dr. Blumenthal, was introduced by the Governor. Dr. Blumenthal also had an opportunity to meet with a group of Providers to hear first hand their thoughts and concerns about HITECH, and he visited a Blueprint facility. EHR vendors and related service providers were represented on a showroom floor, and sessions – practical and specific to the issues of EHR adoption and meaningful use attestation – were well attended.

Also during the next twelve months Vermont will have completed its testing with the CMS/NLR. We will have completed acceptance testing of the MAPIR application and will have implemented the Vermont customized portal work to take full advantage of that consortium effort. Related to this, the Provider Directory problem will have been resolved in the state of Vermont.

Other activities of a secondary relationship to EHRIP will be underway during the next twelve months. The communications plan, described elsewhere in the As-Is portion of this document, will be fully engaged. The state will be moving forward with its implementation of the core SOA-based IT architectural components. The MMIS replacement project will be in implementation with a 2013 expected completion date. The replacement project for the State's eligibility system will have gone through its RFP stage and be in implementation status.

Additional staff will be in place to provide consistent project management of all the IT activity underway or soon about to be underway. An organized status monitoring and reporting mechanism will have been developed to track all of the healthcare reform activities and plans in the State, so that at any point in time we can know the status of the many parallel efforts and understand the ongoing interrelationships between and among all of these efforts.

The Insurance Exchange work now being planned as part of the 2010 ACA will be progressing. Related to that, Vermont is currently participating with other New England states to consider the Early Innovator grant opportunity that was recently announced.

2.6 Plans to Leverage FQHCs with HRSA HIT/EHR Funding to Leverage Adoption

As just mentioned in item 2.5 above, the Bi-State Primary Care Association has been awarded an HRSA HIT/EHR grant to provide implementation services to eight FQHCs in the state. This work is just beginning and will be coordinated with other EHR-related activities through VITL and the Blueprint project management structure. Bi-State has developed a plan to rollout this work in four waves from now through October 2011.

2.7 Help to Providers to Adopt and Meaningfully Use EHR Technology

VITL, as the operator of the State's HIE and HIEN, and especially as the State's REC, is well positioned and has the responsibility through its contract with the State of Vermont to help providers to adopt and meaningfully use EHR technology. While a contract documents the expectations of VITL's activity and operations, it is important to note that VITL was established by an act of state legislation and functions as a fully engaged partner in the state's healthcare reform efforts.

From a technical perspective, VITL has detailed knowledge of the interface aspects of the leading EHR products, understands the details of EHR meaningful use and the timing of potential incentives and limitations on incentives, and is already active with the provider community to meet this need. The activity level is already negotiated and established with the Blueprint and Bi-State targets, and VITL has established a cadre of project managers to lead these efforts and to work directly with the hospitals, practices and providers. Bi-weekly meetings insure that progress is being marked and that adjustments are made to accommodate issues of readiness from the provider aspect which may require a schedule adjustment. We recognize that our progress is ultimately influenced by the actual implementation activities taking place around the state with a number of EHR vendor systems and the practice/provider clients.

VITL has also conducted many overview presentations to explain the meaningful use requirements and timing, and has information available on their website to support this communications role. The State's communication plan will also contribute to helping providers adopt and meaningfully use their EHR technology.

The MAPIR project, together with the State's customized portal work to utilize the MAPIR functionality fully, will provide the necessary technical mechanism for both registration and, eventually, attestation.

2.8 Plans to Address Special Populations with EHR Incentive Program

One very special population being addressed with the EHR Incentive Program is that of Pediatrics. The Blueprint was launched in 2003 as a Chronic Disease Initiative, focused on patients 18 years of age and older. The shift in emphasis to prevention and health maintenance leads to a natural refocus on the total population. Addressing healthy behaviors and age-and gender-appropriate

screening and treatment should start in childhood. To that end, the Blueprint expansion will be inclusive of Pediatric practices as it rolls out statewide.

- Bright Futures™ - In 2010, the Blueprint, supported by the Vermont Chapter of the American Academy of Pediatrics (AAP), is embedding Bright Futures™ (national guidelines for the health supervision of infant, children and adolescents) into DocSite, the clinical repository. This powerful enhancement to Vermont's clinical tracking system will allow clinicians in pediatric and family medicine practices ready and free access to nationally accepted decision support tools. It is crucial step in the readiness for transformation to the Blueprint Integrated Health System.
- Immunization Registry - The periodicity schedule for pediatric immunizations will be built into DocSite as part of the Bright Futures project. In addition, the Vermont Immunization Registry (IMR) will be interfaced with bi-directional exchange so that status, reminders, immunization histories, etc are available in a timely and accurate manner. While the pediatric population is the obvious target group for this type of clinical tracking, the IMR will also be useful in adults. The Vermont Chapter of the AAP is supporting this work.
- Collaboration with VCHIP - The Vermont Child Health Improvement Program (VCHIP) at the University of Vermont has been a key partner in the evaluation of the Blueprint since 2006. Their contribution has been twofold; 1) collection and analysis of data related to chronic disease and self-management via direct chart reviews (4500 charts per year) and 2) NCQA PPC-PCMH recognition assessments. This will become an even larger body of work as the Blueprint expands in geographic size and project scope. Faculty at the UVM College of Medicine is working closely with Blueprint leadership and Vermont Medicaid to enhance access to appropriate services for children and families.

The State HIT Coordinator has begun convening meetings with home health, mental health/behavioral health, and long term care providers to develop a strategic plan for implementing HIT infrastructure with each of them.

Also, as mentioned in the As-Is Section of this plan, the state is coordinating with the VA on multiple fronts. Coordinated HIE planning is occurring between the Department of Mental Health (DMH) and the VA at both the White River Junction veterans' hospital and at the VA Community Based Outreach Centers (CBOC), particularly in Chittenden County. Multi-entity coordination is under way among DMH, the VA, Dartmouth Hitchcock Medical Center and its Vermont-based practices, Fletcher Allen Health Care, the Vermont State Hospital, the University of Vermont, the Vermont Office of Veterans Affairs, and the Vermont Department of Corrections for HIE through the DMH Futures program, various State-sponsored Continuity of Care initiatives, and the SAMHSA funded MHISSION-VT program, an HIE-enabled jail diversion program for veterans with mental health and substance abuse issues.

It should also be noted that the Vermont Blueprint for Health Community Health Teams described in the previous section, include many organizations and community agencies. They are connected by the DocSite care management and care coordination tools to HIE as the Blueprint expands statewide. A pilot program is in development currently to utilize DocSite as the clinical care coordination tool in public and low income housing, to test its usability for housing agencies seeking closer collaboration with health care providers for the benefit of their residents. Again, the

vision is clear: comprehensive, interoperable connectivity built on the HIE backbone but extending well beyond the physician and hospital communities.

2.9 Plans to Leverage Other Grants to Implement the EHR Incentive Program

Vermont received a five year CHIPRA quality improvement grant with the State of Maine in early 2010 that focuses on expansion of the Blueprint model in pediatric and family medicine practices across the state, integrating the Bright Futures templates into the Blueprint Registry and to implement other pediatric specific HIT resources and clinical decision support. This is explained in much more detail in section A (As-Is Landscape) under the last topic: Other HIT Grants.

2.10 Anticipated New Legislation to Implement EHRIP

New legislation is not required or anticipated to implement EHRIP. Several healthcare-related legislative acts have been passed in the past seven years which have established Vermont's current environment which is, from a legislative perspective, prepared to implement EHRIP. Most recently, Act 61 of 2009, an Act relating to health care reform, was enacted in part to implement Health Care Provisions of the American Recovery and Reinvestment Act. A few highlights from that legislation include:

- HIT Plan – Act 61 specifies that the HIT Plan shall include the implementation of an integrated electronic health information infrastructure for the sharing of electronic health information among health care facilities, health care professionals, public and private payers, and patients. The plan is to be updated annually, and the language specifies several items that must be addressed by or included in the plan.
- VITL – Act 61 addresses VITL governance and, significantly, states that VITL is authorized to certify the meaningful use of health information technology and electronic health records by health care providers licensed in Vermont.
- EHR standards and applications – Act 61 requires the establishment of standards and expedited procedures for reviewing applications for the purchase or lease of health care information technology. Any such applications must be consistent with the health information technology plan and the health resource allocation plan.
- HIT Planning and Implementation Grants – Act 61 provides for implementation grants to facilitate and expand the use of health information among organizations according to nationally recognized standards and implementation specifications. The language includes requirements for submitted plans and grant administrative requirements. This is the legislative provision for the State portion of HIT-related Federal grants.
- Vermont Health IT fund – Act 61 continues the Health IT Fund to be applied to HIT programs and initiatives as outlined in the HIT Plan. The fund can be used for loans and grants to health care providers for the development of programs and initiatives sponsored by VITL and state entities, including financial support for VITL as well as for the Blueprint expansion.
- Certified EHR Technology Loan Fund – Act 61 establishes this loan fund within the health IT fund for the purpose of receiving and disbursing funds from the ONC. Appropriate language governing the use of these funds is included.
- Additional topics covered in Act 61 include:
    - Loans to develop certified EHR programs
    - IT Professionals in Health Care Grants
    - Blueprint for Health committees
    - Chronic care infrastructure and prevention measures

- Specification for a Blueprint for Health Strategic Plan
- Health Prevention – Chronic care management
- Medical Home
- Community Health Teams
- Health Insurance Participation
- Participation by health care professionals and hospitals
- Certification of hospitals
- Health Insurance and the Blueprint for Health

SECTION C: Administration and Oversight of the EHR Incentive Payment Program

III. Administration and Oversight of EHRIP:

In this section of the SMHP we describe Vermont's plans to administer and oversee the EHR Incentive Payment (EHRIP) Program. Topics included in this section are:

1. Verify that providers are not sanctioned, and are properly licensed
2. Verify whether Eligible Providers (EPs) are hospital based or not
3. Verify the overall content of provider attestations
4. Communicating to providers re: eligibility, payments, etc.
5. Methodology to calculate patient volume
6. Data sources to verify patient volume for EPs and acute care hospitals
7. Verify EPs at FQHC/RHCs meet the "practices predominately" requirement
8. Verify the Acquire, Implement or Update of EHR technology by providers
9. Verify Meaningful Use of certified EHR technology for the 2nd participation year
10. Identify any proposed changes to the Meaningful Use definition
11. Verify providers' use of EHR technology
12. Collect Meaningful Use data, including clinical quality measures, short- and long-term measures
13. Align data collection and analysis process with collection of other clinical quality measures data such as CHIPRA
14. Identify and describe IT, fiscal and communication systems used to implement EHRIP
15. Identify and describe IT systems changes to implement the EHRIP
16. Identify the IT timeframe for system modifications
17. Identify when Vermont will be ready to test the interface to CMS's NLR
18. Describe the plan for accepting provider registration data from the CMS NLR
19. Identify the kind of website Vermont will host for providers to accommodate enrollment, information, etc.
20. Identify the timing of an MMIS I-APD if modifications are required
21. Identify call center / help desk and other means to address EP and hospital questions regarding EHRIP
22. Describe a provider appeal process for a) incentive payments; b) eligibility determinations; and c) demonstration of efforts to Acquire, Implement or Update and Meaningfully Use EHR Technology
23. Describe a process to assure that all Federal funding (100% incentives and also 90/10 Administrative matches) are accounted for separately for HITECH and not commingled with MMIS FFP
24. Define the frequency for making EHR payments
25. Describe a process to assure that provider payments go directly to the provider with no deduction or rebate
26. Describe a process to assure that payments go to an entity promoting EHR technology only if participation is voluntary by the EP AND that no more than 5% is retained for costs unrelated to EHR technology adoption
27. Describe a process to assure that there are fiscal arrangements with providers, to disburse payments that don't exceed 105% of the capitation rate per 42 CFR Part 438.6, and a methodology to verify this

28. Describe a process to assure that hospital calculations and EP incentives, including tracking the EPs 15% of net average allowable costs of EHR technology, are consistent with statute and regulations
29. Define the role of existing contractors in implementing EHRIP – MMIS, PBM, fiscal agent, managed care contractors, etc.
30. Provide an explicit description of assumptions and dependencies based on a) role of CMS (develop NLR; provider outreach / helpdesk support); b) status/availability of certified EHR technology; c) role, approved plans and status of RECs; d) role, approved plans and status of HIE cooperative agreements; and e) State-specific readiness factors

These items are as specified in the SMHP template provided by CMS. DVHA, as the State Medicaid Agency, will administer the Provider Incentive program directly, and through its Division of Health Care Reform has operational responsibility for the integrated project management of HIT, HIE, EHR adoption, implementation and upgrade, achievement of Meaningful Use criteria, Blueprint Medical Home, Community Health Teams, and payment reform program domains. DVHA has organizational units responsible for Fiscal Operations, Program Policy, Provider/Member Relations, and Quality Improvement/Program Integrity – all of which will participate in the ongoing administration and oversight of the EHRIP.

1. Verify that Providers are not Sanctioned, and are Properly Licensed

Our existing Medicaid enrollment process ensures the provider is not sanctioned and is a properly licensed/qualified provider. We can thus safely assume that if a provider is actively enrolled in Medicaid, then there are no pending sanctions against the provider.

Vermont is participating in the MAPIR consortium and most of the provider interaction and data capture related to EHRIP will be done through the MAPIR web interface. However, providers who will access the MAPIR application will already be registered Vermont MMIS portal users (and not sanctioned and properly licensed/qualified providers), or they will be required to complete the portal registration process prior to using MAPIR. Vermont's MAPIR IAPD will create the backend MMIS services used by the Vermont MMIS Portal to determine whether or not the user is qualified and can subsequently access the MAPIR application.

The MAPIR application as designed includes a page to be customized by the state to inform a user that Sanctions exist. A provider with sanctions will not be allowed to continue the application process for incentive payment. Medicare sanctions returned from the NR&A System will be flagged for review by the SMPHO for applicability to Medicaid.

2. Verify whether Eligible Providers (EPs) are hospital based or not

Once a provider has been authenticated through the secure Vermont state portal and confirmed to be an enrolled Medical Assistance (MA) provider, they will confirm their National Registration & Attestation System (NR&A System) information in the MAPIR application. This will be done through an eligibility questionnaire. The provider will be asked "Are you a hospital based physician?" and "Are you choosing the Medicaid Incentive Program in the state you are applying in?" If either of these two questions is answered incorrectly, the provider will not be able to continue forward with the application process. Subsequent questions will further refine the type of provider and the setting in which the provider practices (e.g., "Do you predominately practice at an FQHC/RHC (50% or more of your practice time)?"). Through this MAPIR questionnaire process we will determine their exact provider status.

There will still be a reliance on the statement of the provider to ensure the number seen in a hospital setting is not more than 90% of the practice. DVHA will perform checks on the number of claims as an indicator of hospital-based status. The Program Integrity Division, within the Department of Vermont Health Access, will set up a report to calculate the percentage of claims an eligible provider is submitting with a hospital setting (indicated on the claims as "place of service". The data in this report will be used to make a hospital-based determination. If selected for audit, DVHA expects providers to submit proof in the form of reports from an EHR, or a reliable paper-based equivalent, to ensure payments are not made to hospital-based professionals.

3. Verify the overall content of provider attestations

MAPIR will calculate the proper incentive payment at the proper time. Professional and hospital provider incentive payment amounts are variable during the incentive program. Professional provider incentive payments are based upon a maximum incentive payment distributed over six payment years. Hospital incentive payments can be made over three to six years and are based on hospital specific data including Medicare Cost reports, discharge days, and growth factors. Professional and hospital payments do not need to be made over consecutive years. The MAPIR technical specification document includes detailed calculations and payment schedules. Since the MAPIR I-APD has been approved, the technical specifications are not repeated here.

4. Communicating to providers re: eligibility, payments, etc.

A certain amount of communication will occur within the portal environment, as providers are interacting with the Vermont portal and our instance of the MAPIR application. For example, the eligibility questionnaire is a specific form of communication. Also as an example, if in the process of going through the eligibility questionnaire, an eligible provider selected "yes" to the question of "Are you a hospital based Physician" and selected "No" to participation in the Medicaid incentive program MAPIR will display the message "*As a Hospital based physician, you are not eligible to participate*".

Beyond the programmed communication that may occur through either the MAPIR application or the Vermont portal, email will be the preferred communications channel. Email contact information and phone numbers will be captured as part of the registration information.

5. Methodology to calculate patient volume

Vermont is accepting the methodologies described in paragraphs (c) and (d) of §495.306 of the final rule – Establishing Patient Volume. Paragraph (c) describes the patient encounter methodology. An EP would divide the total Medicaid patient encounters in any representative, continuous 90-day period in the preceding calendar year by the total patient encounters in the same 90-day period. An eligible hospital would divide the total Medicaid encounters in any representative, continuous 90-day period in the preceding fiscal year by the total encounters in the same 90-day period. A similar calculation would apply for needy individual patient volume.

Paragraph (d) of §495.306 provides for a patient panel methodology, which Vermont is not going to consider. Our Medicaid System and our operational approach is to deliver Medicaid services and associated reimbursement on an encounter basis – there is always an instance of a provider delivering a service to a beneficiary as an encounter.

Vermont did not propose alternative methodologies to those described in the final rule in its first draft SMHP submittal. More recently we realize the need to exclude CHIP encounters from patient volume counts. Vermont's implementation of CHIP does not accommodate discernment of this data from the provider perspective. At this point in time we are considering one of two options – attempting to generate a report by provider to identify the CHIP claims, or reducing submitted patient volume data by ratio of CHIP to total Medicaid beneficiaries. We are leaning to the blanket ratio reduction across all providers.

Per paragraph (h) of §495.306 – Group Practices, clinics or group practices will be permitted to calculate patient volume at the group practice/clinic level with the following limitations:

1. the clinic or group practice's patient volume is appropriate as a patient volume methodology calculation for the EP;
2. There is an auditable data source to support the clinic's or group practice's patient volume determination;
3. All EPs in the group practice or clinic must use the same methodology for the payment year;
4. The clinic or group practice uses the entire practice or clinic's patient volume and does not limit patient volume in any way;
5. If an EP works inside and outside of the clinic or practice, then the patient volume calculation includes only those encounters associated with the clinic or group practice, and not the EP's outside encounters.

Within the MAPIR application the EP will have the opportunity to establish a start date for the 90-day attestation period, to indicate if they are predominately practicing at an FQHC/RHC, and to indicate if they are submitting volumes for an individual provider or for a group/clinic. If the EP is practicing predominately at an FQHC/RHC, they will be taken to a page where they must choose the locations where they practice. They will also be able to add a service location. Service volumes can then be listed by location. MAPIR provides for a similar capture of patient volume for other provider types as well. All of the specified numerator and denominator data types are covered in MAPIR for the full satisfaction of the Final Rule.

While MAPIR provides the data entry gateway for patient volume methodology, it is VITL who will be working directly with providers and hospitals to prepare for attestation. VITL has done outreach work to prepare the provider community for year-one incentive payment requirements as well as presenting the overall incentive opportunity. As the State of Vermont's sole REC they are working directly with providers, practices, and hospitals to prepare for EHR adoption and to participate in the HIE and the EHRIP.

6. Data sources to verify patient volume for EPs and acute care hospitals

As part of its role as a REC, VITL will assemble and maintain a spreadsheet depiction of patient volume by period for EPs and acute care hospitals. The data source for hospital-specific entries will be the Medicare cost report submitted by each hospital. A patient cannot be counted in the numerator for the Medicaid share if they would count for purposes of calculating the Medicare share. In other words, the inpatient bed day of a dually eligible patient cannot be counted in the Medicaid share numerator.

Patient volume for EPs will be based on reports based on EHR system data and submitted as requested to verify what is reported online. Auditing of the EHRIP, including verification of the volume data supporting incentive payments, will be performed by DVHA's Program Integrity unit.

In Vermont, the Department of Banking, Insurance, Securities & Health Care Administration (BISHCA), through its Health Care Administration, clarifies the administrative requirements and provides the data and technical guidance for hospitals regarding health care in Vermont. In particular, an Annual Hospital Budget Review Process establishes hospital budgets and monitors hospital costs. Hospital cost data is submitted to BISHCA, and BISHCA performs its own reviews of the submitted data. While the Hospital Cost Data report is a recognized source of data to validate Hospital incentive payment claims, there may be data more readily available to us from the BISHCA databases. BISHCA also manages the Uniform Hospital Discharge Data Set, which may provide the denominator data of total inpatient bed days as well as total charges for any given quarter. This data source is created from the hospital billing records and would be an acceptable data source – it will have been reviewed and accepted as accurate by the hospitals. We are investigating these data sources now, with BISHCA's assistance and with the participation of the Program Integrity Unit of DVHA, the state's Medicaid operations organization.

As to methodology for making hospital incentive calculations, we are using the designed methodology of the MAPIR system, which is common to the thirteen states sponsoring the MAPIR development. At this point in time, development is still underway, but we are confident of the requirements, the detailed design, and the testing program that will exercise this methodology prior to implementation in Vermont.

7. Verify EPs at FQHC/RHCs meet the "practices predominately" requirement

The preamble to the Final Rule specifies that "…an EP practices predominantly at an FQHC or an RHC when the clinical location for over 50 percent of his or her total patient encounters over a period of 6 months occurs at an FQHC or RHC". Vermont will request reports from FQHC/RHCs to demonstrate the patient encounters related to an EP applying for incentives. An EP requesting incentives will be registering through the MAPIR system and entering patient volume information in that system. The state will compare reported FQHC/RHC data with data entered into MAPIR by the EP to verify the "practices predominately" requirement.

8. Verify the Adopt, Implement or Update of EHR technology by providers

In the MAPIR application, providers will identify EHR technology by product and version, making selections from drop down menus. The menus will be populated from weekly files of certified EHR products received from ONC. Providers will select the product and version and in a later step of the attestation process in MAPIR, they will designate whether the Adopt, Implement or Update status applies to them. We expect the use of an electronic signature as part of the online attestation. The signature page will caution that the provider must be authorized to receive payment, that all information provided is accurate, that the provider is subject to legal penalty for providing false information, and that any funds expended under false pretenses will be recouped.

Vermont will audit the incentive payment requests as described in Section D. We may also require the submission of scanned "proof of purchase" documentation – receipts, invoices, license agreements, etc. – to demonstrate an EHR acquisition, implementation or update. In most, probably all cases, though, we should have knowledge of this activity through the VITL roles of exchange operation and REC activities.

9. Verify Meaningful Use of certified EHR technology for the 2nd participation year

The MAPIR project is initially focused on initial certification and first-year incentive claim validation. We anticipate subsequent development of that effort will address verification of

Meaningful Use for the 2nd participation year. However, clinical quality data will be flowing from the provider's EHR to the state's clinical data repository, through the HIE operated by VITL. VITL, as the state's sole REC, will also be working with the providers to ensure that meaningful use data is being properly acquired, stored, and reported to the state for management of the incentive program. Thus, Vermont will have both attestation through MAPIR and supporting repository data to support and check the attestation.

The approved Vermont HIT Plan expands on this topic and relevant information from that plan follows:

Vermont has been honing its strategy for supporting eligible providers and hospitals to meet meaningful use requirements since the phrase officially entered the lexicon in 2009.
The entire health care delivery system transformation architecture – the Blueprint and the HIT-HIE operational plan – is designed to meet the same goals envisioned by the federal architects of meaningful use, including the capacity to improve the quality, safety, and value of care through the ubiquitous use of health information for decision support, quality improvement initiatives, and patient empowerment.

VITL initiated the ePrescribe Vermont program in 2008, supported by a HRSA grant. The program provides a statewide license for prescribers without EHRs to use a leading free-standing e-prescribing application, provides incentives to providers with EHRs to implement e-prescribing and provides support to independent pharmacies in the state to accept and transmit electronic prescriptions. This program will enable eligible providers to meet Stage 1 meaningful use requirements in 2011.

Vermont is somewhat unusual in that most of the state's clinical laboratory work is performed by the state's hospitals, not by commercial labs. As noted above, all hospitals will be connected to the HIE no later than July 1, 2011 to provide, at a minimum, lab results and patient care summaries. Accordingly, both those HIE functions will enable eligible providers to meet Stage 1 meaningful use requirements in 2011.

The integration of public health reporting systems with the HIE network to support later stage meaningful use requirements was described above and is detailed in the operational section of the VHITP. In addition, the Blueprint IT infrastructure and its system of common, structured clinical data elements provides the foundation for clinical quality reporting measures in later stages of meaningful use.

By October 2013, every Vermont primary care practice that wants to be part of the Blueprint medical home and community health team network – which will very likely be a substantial majority of all primary care sites – will have access to the Blueprint clinical data repository, registry, and reporting tools. The Blueprint Registry's clinical data set is able to provide information on both preventive services and chronic conditions. Nurses on the community health team will be able to do outreach to reduce gaps in preventive services as well as to arrange appointments and outreach for specialty services for diabetics requiring specialized services.

10. Identify any proposed changes to the Meaningful Use definition

Vermont is not proposing changes to the Meaningful Use definition, nor do we anticipate proposing any changes in the future.

11. Verify providers' use of EHR technology

Please see item 8 above. Through the MAPIR application, providers will be attesting to use of certified EHR system, by selecting their product and version from drop down menus populated with recent ONC data. The state is still determining if additional proof of EHR ownership will be required through copies of receipts, Purchase Orders, or software license documentation.

12. Collect Meaningful Use data, including clinical quality measures, short- and long-term measures

Vermont has a contracted clinical data repository through a third party vendor. Connectivity through the HIE is already established. The contract is administered through the Blueprint for Health management, but the repository vendor works closely with VITL as the operator of the HIE. Not all EHR systems are currently accommodated by the registry, but the contract allows for expansion to additional EHRs as needed.

One feature of the repository is that a provider without an EHR can use the repository as a simple EHR for certain functions, through a web interface. This would not be a use qualifying for an incentive payment, but it does help with the expansion of electronic records and the acquisition of clinical health data.

Vermont is not making a distinction between short- and long-term measures in terms of our plans for collecting this data through the repository.

13. Align data collection and analysis process with collection of other clinical quality measures data such as CHIPRA

Vermont received a five year CHIPRA quality improvement grant with the State of Maine in early 2010 that focuses on expansion of the Blueprint model in pediatric and family medicine practices across the state, integrating the Bright Futures templates into the Blueprint Registry and to implement other pediatric specific HIT resources and clinical decision support. This is explained in much more detail in section A (As-Is Landscape) under the last topic: Other HIT Grants.

14. Identify and describe IT, fiscal and communication systems used to implement EHRIP
15. Identify and describe IT systems changes to implement the EHRIP

There are several system aspects to Vermont's initial preparation for implementing an EHRIP, and there will be changes in the future as planned new architectures and systems are implemented.

For communications, e-mail will be a primary tool for working with individual hospitals and providers as they finalize their EHR plans and begin implementation. VITL, as the state's REC, will be most involved in this activity. Broader communications will occur as identified in the communications plan outlined in Section A of this document. Briefly, the systems used for communications will consist of information available on the State's website for Health Care Reform, which will cover EHR activity and planning. Information will be repeated on the state portal, which already exists to register providers for Medicaid participation. The state HIT Coordinator publishes frequent e-updates to a large and expanding stakeholder group as well.

MAPIR will be a primary system for the implementation of EHRIP. As stated in Section B of this document, MAPIR will provide most of the core functionality to register and take attestation information from a provider. Further customization of the state's portal will complete this aspect of EHRIP. The state's required customization is currently being designed and will be the subject of an IAPD for this work.

The state will use current MMIS functionality for making the actual incentive payments as validated through MAPIR and the state's portal. An RFP for a new MES (Medicaid Enterprise System) to replace the current MMIS is currently posted, with responses due February 15, 2011. The new system will have functionality to address EHRIP, but will not be operational until 2013 as currently scheduled. However, as stated, we are prepared to manage the payments through the existing system functionality. Another system initiative will be introduced soon through an RFP for a new eligibility system.

The new MES and eligibility systems will also be compatible with a third initiative to establish core components which meet the MITA expectations. That initiative is currently in contract negotiation and should be underway early next year. Again, this introduces longer timelines for the updating of both our architecture and major systems, but current systems will meet our needs in the interim, with minor adjustments. MAPIR is the major new functionality being developed for EHRIP and provides most of the new required features.

Vermont is fortunate to have an existing active HIE, REC, and clinical data repository, as well as the Blueprint for Health activity which works in parallel with EHR rollouts. We are well positioned to accommodate EHRIP.

16. Identify the IT timeframe for system modifications

The major projects related to HIT/E for Vermont include 1)Core Components; 2) a Master Provider Index; 3) Vermont Integrated Eligibility Workflow System (VIEWS); 4) Medicaid Enterprise System (MES); and 5) a data warehouse expansion – Central Source for Management and Evaluation (CSME).

Vermont's core component project will establish an architecture for future IT development within the Agency of Human Services, including the Department of Vermont Health Access and the Division of Health Care Reform. This architecture will be used for proposed new systems such as MES and VIEWS as described below. The elements of the core components project include:

- Rules Engine / Transformation Hub
- Identity Administration and Management
- Workflow Component
- Enterprise Master Person Index
- Electronic Service Bus (SOA)

The Core Components project has been through the RFP phase, a preferred vendor has been selected, and contract discussion is underway. The current schedule for the implementation begins in January of 2011 and completes in July, 2011.

Vermont has engaged the issue of a single source of truth for Provider information, referred to as the Master Provider Index. A working group has been addressing the various aspects and requirements of such an index. At this point we have determined that the complexity of getting to a desired outcome for provider information raises this effort to the project level. We are in the process of drafting a project charter to address stakeholders, requirements gathering, compliance with standards and efforts underway with ONC, and compatibility with our emerging architecture. We note the possibility that a Master Provider Index may be a subset of the Enterprise Master Person Index which is one of the core components previously discussed. This effort has a priority as it will improve the efficiency of administering the EHRIP. We are currently anticipating implementation between April of 2011 and March 31 of 2012.

The Vermont Integrated Eligibility Workflow System (VIEWS) is intended to replace much of the functionality of an existing aged mainframe system called ACCESS. While it will be an eligibility and enrollment system for Medicaid services in general, it will also serve that purpose for the Health Insurance Exchange System which is currently being planned as part of Vermont's response to the 2010 ACA. VIEWS will be the first major system developed under the new core component architecture, with an implementation phase currently scheduled between March 1, 2011 and January 1, 2014.

The Medicaid Enterprise System (MES) replacement for our current MMIS has been discussed. The current schedule calls for the implementation phase to occur between July 1, 2011, and January 1, 2013.

The state also has a data warehouse which services reporting and auditing efforts. This is the Central Source for Measurement and Evaluation, CSME. Work to upgrade, expand and enhance the utilization of this warehouse will be ongoing between April 1, 2011 and January 1, 2016.

These timelines are graphically presented in an overview timeline following the preface to this plan document.

There are many other systems and databases that relate to HIT. The Vermont HIT Plan identified these in Appendix C of that document – "Vermont Agency of Human Services IT Modernization / HIE Integration Opportunities". Those opportunities are categorized into three tiers, from most significant to least significant. For completeness that appendix is included in this SMHP plan as well. More detailed planning and scheduling to address the potential interfaces and development work that might be required for these systems will be developed in future versions of this SMHP.

17. Identify when Vermont will be ready to test the interface to CMS's NLR

Vermont intends to participate in the testing cycle currently being considered for the MAPIR project. The core development team will first test connectivity using a use case data file. The individual states that make up the consortium will then perform a similar connectivity test Vermont has recently submitted its Secure Point Of Entry form to CMS, providing both contact information and type of connectivity preferred.

The states will each provide state specific test data, guidance is being developed. Initial testing will be done in the CMS Development region with Paragon NR&A System Team logging defects. There is a set of approximately 100 test cases that will be tested for each state in the development region, upon successful completion of the testing, states will be moved to the Validation region, where three test cases will be administered by the NR&A System testing contactor, QSSI. Upon successful completion the state will be approved to be moved to production.

The MAPIR project team and CMS have had numerous exchanges to resolve questions related to the testing. This work will continue as the first phase of MAPIR nears conclusion, currently scheduled for April of 2011. That release will cover a single NR&A System interface. The remaining interfaces will be addressed in the second MAPIR release scheduled for April of 2011. Vermont is targeting the month following each of these releases for its state-specific testing. That schedule will be more specifically identified in the IAPD currently under development.

18. Describe the plan for accepting provider registration data from the CMS NLR

As previously indicated, much of the functionality required to accept provider registration is being addressed through the core MAPIR development. However, there are customization steps required to fully implement this functionality for Vermont:

- MAPIR will need to be integrated into the existing MMIS change management/promotion environments required to support the existing production application;
- The existing Vermont MMIS provider portal and user management process will be used to support secure access and provider authentication of the MAPIR application;
- MAPIR users must first register with the NLR;
- Only Vermont Medicaid enrolled providers will access the MAPIR application via the Vermont MMIS portal;
- Providers who will access the MAPIR application will already be registered Vermont MMIS Provider Portal users or will be required to complete the portal registration process prior to using MAPIR;
- Backend MMIS services used by the Vermont MMIS portal will need to be created to determine whether or not the user can access the MAPIR application. Some enhancements to incorporate additional MAPIR specific data needs will be added to the existing user authentication/logon process;
- The provider and financial interfaces to MAPIR will be MMIS batch interfaces;
- There will be an NPI cross reference capability developed in order to maintain unique identifiers across downstream MMIS systems.

More detail expanding on these items will be included in the IAPD for the MAPIR integration.

19. Identify the kind of website Vermont will host for providers to accommodate enrollment, information, etc.

As stated above, Vermont's response for accommodating providers for enrollment, information, etc. is a combination of the MAPIR core functionality and the Vermont portal customization as described.

20. Identify the timing of an MMIS I-APD if modifications are required

An I-APD is under development for the State's MAPIR customized integration. This I-APD will address both the Vermont portal work that is required as well as MMIS modifications to accommodate the EHRIP related financial transactions. We anticipate this I-APD being submitted in January of 2011.

21. Identify call center / help desk and other means to address EP and hospital questions regarding EHRIP

New Call Center technology is finding its way into Health Care Reform efforts. The Insurance Exchange currently being planned as part of Vermont's response to the 2010 ACA will require a call center operation and we will leverage that solution to accommodate the HITECH-related incentive activities as well. It is to be determined if a separate call center is required.

However, more specifically to the initial EHRIP activities, Vermont is fortunate that we have a single HIE for the state, and a single REC for the state – and that both functions are provided through VITL. Initially set up to support the Blueprint for Health, but now strategically situated for HIT/E purposes, VITL has separate project organizations for expanding the Blueprint program, and for promoting the meaningful use of EHR technology throughout the state. The Blueprint project

teams are focused on the necessary Blueprint goal of getting clinical record data into the state's clinical data repository (Covisint/DocSite). Frequently this involves working with practices and hospitals to resolve interface issues to establish connectivity to the exchange. This work is thus loosely connected to the EHR incentive payment program. The work VITL does as a REC is directly in support of the EHRIP. VITL has established a project organization of project managers to support HIT initiatives and REC implementation specialists who work directly with practices and hospitals to acquire and implement EHR technology and to arrive at meaningful use.

More specifically, VITL will have a support center to address both HIT and REC issues. The HIT and REC project teams made up of project managers and implementation specialists/facilitators will have ongoing relationships with the practices and hospitals throughout the state and will offer support on the road to meaningful use. The VITL support center will attempt to resolve all issues on first call. If the support center does not have the knowledge to resolve issues on first call, the issues will be triaged to either HIT project managers, REC implementation specialists, or other appropriate subject matter experts who have a deeper knowledge of the topic. Issues that cannot be resolved at this level will be appropriately channeled through either CMS or DVHA. This will address a significant percentage of the types of questions and queries we anticipate now and in the future related to meaningful use and incentives. Until there is greater clarity on the volume and complexity of questions related to the incentive programs, it makes sense to resource a subject matter expert with expertise in the intricacies of both the Medicare and Vermont Medicaid incentive programs.

In addition, as described in the communications plan, we will do extensive outreach to the provider community to prepare them for the EHRIP and the mechanisms that will be used to implement the incentive program. That outreach will consist of both web-based and other electronic communications as well as opportunities to meet in group situations to present the program.

22. Describe a provider appeal process for a) incentive payments; b) eligibility determinations; and c) demonstration of efforts to Acquire, Implement or Update and Meaningfully Use EHR Technology

Initially, existing provider appeal processes will be expanded to include appeals related to the EHRIP, including incentive payments, eligibility determinations, and demonstration of efforts to Acquire, Implement or Update and Meaningfully Use EHR technology. Vermont's MITA Self Assessment As-Is documentation describes the Provider Management business process. The Agency of Human Services departments, including DVHA, typically currently perform Provider Management processes manually, including our management of provider grievance and appeals. We receive the grievance or appeal request, manually collect the necessary data, coordinate activities with other departments and communicate decisions. We have varying degrees of automation for enrolling providers and for obtaining and managing provider information. Because VITL serves as the REC and is authorized by the state to certify Meaningful Use, the appeal process for EHRIP will include their collaboration. A documented appeal process will be in place prior to our targeted date for initial incentive payments, which is July of 2011.

23. Describe a process to assure that all Federal funding (100% incentives and also 90/10 Administrative matches) are accounted for separately for HITECH and not commingled with MMIS FFP

Vermont DVHA has an existing accounting system and procedures which accommodate the accounting of both the 100 percent incentive payments, as well as the 90 percent HIT Administrative match. As an example, program codes have been established to track the 90 percent

HIT administrative match associated with Vermont's P-APD authorized activities. Staff are instructed in the appropriate use of time coding and purchases, and management at the Director level and above reviews all time and purchases being charged to this funding source.

24. Define the frequency for making EHR payments

The customization work required of the existing MMIS to accommodate MAPIR functionality will include enhancements to process financial transactions through the MMIS for EHRIP. We have identified that we will process files of financial transactions output from MAPIR on a regular basis, anticipated to be weekly. However, current plans for year one are to release payments on a quarterly basis, in synch with the 90-day period of data required to support incentive claims. As we finish the detailed design work for Vermont's MAPIR / MMIS customization, we will work toward the most timely payment schedule we can accommodate.

25. Describe a process to assure that provider payments go directly to the provider with no deduction or rebate

DVHA will provide assurances that amounts received with respect to incentive claims by a Medicaid provider for the adoption of EHR technology are paid directly to the provider, or to an employer or facility to which the provider has assigned payments, without any deduction or rebate. A process to support these assurances will be in place by July 2011, when incentive payments are anticipated to begin. Validation of incentive claim amounts will be occurring in MAPIR, and VITL is authorized to validate meaningful use as well. Confirming that payments match validated and authorized claim amounts should be a minor procedural development.

26. Describe a process to assure that payments go to an entity promoting EHR technology only if participation is voluntary by the EP AND that no more than 5% is retained for costs unrelated to EHR technology adoption

VITL is the state's REC and, in joint participation with Vermont's Division of Health Care Reform and the Blueprint for Health, promotes the adoption of EHR technology. VITL is funded for this activity through the state's HIT fund, as established by the Vermont legislature. There are no anticipated payments to VITL by an EP for the specific adoption of EHR technology by that EP.

27. Describe a process to assure that there are fiscal arrangements with providers, to disburse payments that don't exceed 105% of the capitation rate per 42 CFR Part 438.6, and a methodology to verify this

Specific to this topic, 42 CFR Part 438.6 addresses contract requirements for risk contracts associated with MCO, PIHP, and PAHP contracts, which utilize capitation rates. Vermont has no contracts of this nature and this is not a concern we need to address. Elsewhere we have discussed our use of the phrase "managed care" in this SMHP document as not meant to imply that we would accept patient panel patient volume calculations.

28. Describe a process to assure that hospital calculations and EP incentives, including tracking the EPs 15% of net average allowable costs of EHR technology, are consistent with statute and regulations

Because of the Medicare and Medicaid Extenders Act of 2010, we interpret this question to now be asking "How will Vermont administratively check the calculations and appropriate

incentives before making incentive payments?" The MAPIR system will be communicating to our MMIS system at certain points in the registration and attestation processes, and our MMIS administrator (HP) will be developing routines to access and analyze the data to validate reported encounters or hospital discharges. Certain other data, namely total encounters, total discharges, needy patient counts, will be attested to by the providers and we will accept this data at the time of submission for purposes of making an incentive payment. Certain of this data can be validated prior to payment, but other data will be accepted as supporting payment and we will rely on audit procedures to provide the appropriate checks on invalid incentive claims. We will require proof of EHR investment, as stated in the SMHP, and the exact evidence we will request – a Purchase Order, an Invoice, etc. – will be specified in the EHRIP Audit plan under development.

29. Define the role of existing contractors in implementing EHRIP – MMIS, PBM, fiscal agent, managed care contractors, etc.

Vermont's current MMIS is operated and supported by HP (Hewlett-Packard). HP is working with Vermont to develop the I-APD for the MAPIR related customization that is required of both the Vermont portal and the MMIS to support the incentive program. VITL also has a role in implementing EHRIP – as the state's REC they promote EHR adoption, assist providers in selection and implementation of their EHR technology, and are authorized to certify the meaningful use of that technology. While some of the changes to the MMIS may support semi-automation of an EHRIP, DVHA intends to maintain administrative oversight of the EHRIP with DVHA personnel. This is appropriate, as DVHA is the hub for relationships with VITL, with the Blueprint for Health, and with HP.

30. Provide an explicit description of assumptions and dependencies based on a) role of CMS (develop NLR; provider outreach / helpdesk support); b) status/availability of certified EHR technology; c) role, approved plans and status of RECs; d) role, approved plans and status of HIE cooperative agreements; and e) State-specific readiness factors

The NR&A System is fully functional now. Vermont is assuming the timely implementation of the MAPIR project which will initiate provider registration and identify providers seeking authorization to Vermont for subsequent processing through our portal. We also assume the availability of the provider outreach/help desk support functions as described above.

Vermont assumes the availability of certified EHR technology from which providers may choose to implement, on a timeline consistent with Vermont's plans for implementing the incentive payment program. This should not be an issue, as significant recent progress has been made to test and identify certified systems on the federal web site. Of concern would be the ongoing progress for certification of additional systems, especially any systems that may have already been implemented by providers in Vermont.

Vermont's REC – VITL – is positioned to assist practices in the identification and selection of certified EHR technology. Further, VITL has developed training to familiarize providers with the requirements of Meaningful Use and the data requirements necessary to satisfy these requirements. Although DVHA does not yet have implementation of incentive payments in place, VITL is prepared to meet its role in promoting and assisting the implementation with providers.

We assume that an effort currently underway to select an HIE vendor through a competitive process, possibly replacing the current HIE vendor, will be successful and t hat the HIE will make

whatever transitions may be associated with that effort in a way that is non-disruptive. We are also completing a contract negotiation to continue and expand the clinical data repository that supports the Blueprint for Health as well as EHR adoption requirements.

In several places already mentioned in this SMHP we have discussed the major IT activities underway in Vermont related to Health Information Technology in general. All of this activity will result in systems that will support and enhance EHRIP. However, we have also identified that less ambitious enhancements to existing systems will be undertaken to support the initial EHRIP requirements. While we have identified a timeline for all of this activity, our initial EHRIP implementation is not dependent on those projects.

SECTION D: Vermont's Audit Strategy

IV. State's Audit Strategy:

In this section of the SMHP we describe Vermont's plans to audit the EHR Incentive Payment (EHRIP) Program. Topics included in this section are:

1. Methods to identify suspected fraud and abuse, and if contractors are used
2. How we will track the total dollar amount of overpayments identified by the state as a result of oversight activities conducted during the Federal Fiscal Year (FFY)
3. Actions to take when fraud and abuse are detected
4. Existing data sources to leverage to verify Meaningful Use (HIE, pharmacy hubs, Immunization Registries, Public Health surveillance databases, etc.)
5. Sampling methodology if proposed (probe sampling; random)
6. Methods to reduce provider burden and maintain integrity and efficiency of oversight process
7. Where program integrity operations are located within the State Medicaid Agency, and how responsibility for EHRIP is allocated

These items are as specified in the SMHP template provided by CMS. As mentioned in Section C above, DVHA, as the State Medicaid Agency, will administer the Provider Incentive program directly, and through its Division of Health Care Reform has operational responsibility for the integrated project management of HIT, HIE, EHR adoption, implementation and upgrade, achievement of Meaningful Use criteria, Blueprint Medical Home, Community Health Teams, and payment reform program domains. DVHA has organizational units responsible for Fiscal Operations, Program Policy, Provider/Member Relations, and Quality Improvement/Program Integrity – all of which will participate in the ongoing administration and oversight of the EHRIP.

Vermont will have a program capable of auditing all of the data elements submitted by EHRIP provider claims, including encounter data, inpatient-bed-day data, discharge data, needy person data, and EHR investments. In addition, we will be able to audit this data across the period of time being used to support the incentive claim. The data sources that can be used to audit these data elements, with the exception of the EHR investments, already exist in the MMIS system or in databases at BISHCA. We are hoping to avoid using the Hospital Cost Data reports, but are prepared to incorporate those into our audit and validation processes as well. To the extent that we can, especially in the case of hospitals to whom we expect the majority of total incentive amounts to be made, we anticipate being able to validate all supporting data for an incentive claim prior to releasing the payment, in near real time, which would essentially serve as a pre-audit for these large claims. For other Eligible Providers more traditional audit processes will be employed for after-the-fact auditing of the program, including sampling to appropriate and acceptable confidence tolerances.

1. Methods to identify fraud and abuse and if contractors are used

DVHA, Vermont's State Medicaid Agency, has a Program Integrity Unit, which is responsible for auditing and identifying fraud and abuse. For EHRIP, existing audit practices and procedures will be employed. Random sampling of the EHRIP sub-population of providers will be conducted. Items of audit will include validation of Medicaid patient encounters (or Needy Patient encounters in the case of FQHC/RHCs); total patient encounters; proof of a certified EHR, and proof of data acquisition. The Program Integrity Unit will coordinate with both the Blueprint for Health and VITL (as the REC) to insure that the population of EHRIP providers is completely identified.

In most cases, VITL will have certified Meaningful Use, as they are authorized to do so. Many audits may consist of a review of VITL records.

Audit procedures specific to EHRIP will be documented by July of 2011, when initial payments are anticipated to begin. Elements of those procedures will include:

Element	How	Comments
Adopt, Implement, Upgrade (AIU) of certified electronic health record technology	Vermont will list what documentation is acceptable, including receipts, contracts, purchase orders, etc.	Vermont will specify a period of retention of this documentation by providers.
Certified EHR Technology	Same as above.	
Practices Predominately	Will require verification across multiple payers' data. Vermont has (does not have?) an all-payer database which can be used to verify this element.	This is a low-risk element and will be audited only if other concerns are raised.
Licensure/Medicaid provider	Vermont will use existing systems in concert with MAPIR/NR&A System registration to verify an EP type and enrollment in Medicaid. We will also check licensure against the state's licensing board.	We are aware that HIS providers are not required to be licensed in the state in which they practice for HIS>
Non-sanctioned/excluded and death	MAPIR registration includes interfacing with the NR&A System which cross walks for OIG exclusions list and the Death Master File.	
Medicaid Patient Volume	Vermont will use Medicaid reimbursed claims, encounter data, and all payer claims database. VITL records will be helpful here as they are authorized to validate Meaningful Use.	
Needy Individual Patient Volume	Vermont will use Medicaid/CHIP claims, encounter data, and clinic data submitted to HRSA on claims by source of payment	It will be easier to verify this at the group level since FQHCs/RHCs already capture and report this to HRSA. Vermont Medicaid will ensure that CHIP recipients are being counted at the time of service by cross checking their eligibility numbers between both programs.
Non-Hospital-based	This is only based upon	

	Medicaid so requires a review of Medicaid claims and/or encounter data based on Vermont's participation in managed care)	
Pas at FQHC/RHCs that are "so led" by a PA	Vermont will verify this situation via ownership documentation, physician/PA collaborative agreement, or other appropriate documentation.	The MAPIR registration and attestation system will identify those situations that require scrutiny for this. Vermont will determine if this information can be pre-populated in a drop-down menu on the attestation system for Pas as a pre-payment control.
Costs were at least the NAAC	Vermont hopes to verify this at the same time as AIU and certified EHR technology (with VITL) if the documentation is a contract, receipt or similar.	We understand that CMS is developing a worksheet template for this, and that failure to provide supporting documentation could increase a provider's risk profile for audit.
Provider responsible for 15% ($3,750 in Year 1)	Vermont will verify at the same time as AIU and certified EHR technology, assuming the documentation is a contract, receipt, or similar.	We understand that CMS is developing a worksheet template for this. Vermont will personalize it to reflect if we will accept revenue loss as a permitted cost. We recognize that failure to provide supporting documentation would increase a provider's risk profile.
No duplicated payment	NR&A System will verify	When EPs register/attest through the MAPIR application they will be stating that they are not attempting to receive nor have they received an incentive payment under another State's EHR Incentive Program or from the Medicare EHRIP for that payment year.
Payment Reassignment	Vermont, through the MAPIR application and related customization work, will make a pre-payment determination of a valid NPI/TIN match in the Medicaid system.	We recognize that our MMIS will have to recognize the TIN/NPI combination when the payment is reassigned. The MMIS will have to collect and recognize the TIN for an adoption entity if one is designated, and match it against the EP's NPI.

We appreciate the audit guidance from CMS for EHRIP and the provision of the audit template reflected in the table above.

2. How we will track the total dollar amount of overpayments identified by the state as a result of oversight activities conducted during the Federal Fiscal Year (FFY)

Vermont has systematic processes and procedures in place today to track overpayments for Medicaid claims. Payments to providers are compared to amounts owed by those providers and a net payment adjustment is made to determine a final payment amount. The EHRIP payment will not be processed as a typical claim, but the payment process will have the same capabilities to recover overpayments identified by the State as a result of oversight activities from any future payments. The MMIS will be modified to include a specific financial reason code description that will be applied to these overpayments for reporting and tracking purposes.

3. Actions to take when fraud and abuse are detected

Item 22 in Section C above described the process for managing provider appeals and grievances. A similar process is invoked when fraud and abuse are detected – a combination of manual and semi-automated steps and information gathering. The Program Integrity unit within DVHA will respond to detected fraud and abuse and will follow existing processes and procedures to resolve any such issues.

The Medicaid Integrity Group's 2008 PI review indentified that Vermont's enrollment processes do not capture all criminal convictions information as well as all ownership and disclosure information. Moreover, Vermont was not then checking exclusion databases for all providers, owners and managing employees on a monthly basis. The Medicaid Integrity Group filed a Corrective Action Plan (CAP) related to this item, in response to the 2008 review finding. However, a more recent review, just completed, found this CAP to be an insufficient response. In addition, the 2008 review was based on an understanding of what was happening in other states, while the 2011 review is more formally based on Best Practices. As a result of the 2011 findings, we will develop a sufficient response as part of a CAP. This response will be incorporated into the SMHP in a later iteration, or by means of a memo depending on the timing of the CAP and our proposed EHRIP launch date.

4. Existing data sources to leverage to verify Meaningful Use (HIE, pharmacy hubs, Immunization Registries, Public Health surveillance databases, etc.)

Vermont will have a number of data sources which can be compared to verify Meaningful Use. The primary source will be the repository operated to support both the Blueprint for Health and the HIE. The Immunization Registry is another source as are certain Public Health surveillance databases. Our As-Is discussion on this topic in Section A we note that Vermont's single state health department is currently receiving some immunization records, syndromic surveillance, and notifiable lab results electronically, but the integration of public health data collection with the HIE is a component of the state / HIE infrastructure buildout. The HIE has been established as the transport mechanism for data exchange with the state Immunization Registry, and other public health registries will be added over time.

As we go forward to validating meaningful use, providers and hospitals will have to submit significant amounts of data related to the clinical elements of meaningful use. The MAPIR system is already designed to accommodate the uploading of PDF files, which we anticipate would be the PDF version of spreadsheets containing supporting data (numerators and denominators) for meaningful use criteria. However, in year one, we are discouraging and not planning to accommodate meaningful use attestations. Any providers or hospitals attempting to attest to meaningful use will be contacted and instead directed to attest to an EHR 'upgrade' status. The other states that we are frequently in contact with, including all of the MAPIR states, are aware that auditing meaningful use will be complicated and there is work to be done in this area, with the anticipated participation if not guidance of CMS. Other documents that will be submitted by providers, though not through the MAPIR system, will be responding to our specific proof of investment requirements.

5. Sampling methodology if proposed (probe sampling; random)

Our evolving approach to auditing eligible providers includes leveraging the activities and potential record acquisition of the REC (VITL). The REC will have contracts in place with the majority of Primary Care eligible providers to help them with EHR adoption and implementation, connection to the Exchange, and achievement of Meaningful Use. As the REC works with providers to come online and achieve Meaningful Use, it will also certify the Meaningful Use. Certification is currently being considered as supported by screen shots of the EHR system relative to the Meaningful Use criteria. (Certification is not audit, however, as certain EHR system aspects will most likely require a site visit. An example would be auditing that the system logging function of the EHR has not been turned off during the audit period). This repository of data, which will include electronic data and, most likely, more traditional filed information, can augment the data sources available to our Program Integrity unit for purposes of audit, both in year 1 (no Meaningful Use) and in subsequent years through the various stages of Meaningful Use. While the REC's data and information files will have information on many providers implementing EHR systems and seeking EHR incentives, thus providing a targeted population file for investigating if not auditing limited EHRIP issues, those sources will not be a target for full audit oversight.

Vermont's PI Division currently contracts with a vendor to provide statistical expertise related to audit functions. Additional program work will be specified for this vendor to provide a sampling methodology to satisfy the risk-based characteristics of the EHRIP context. We consider those risk-based characteristics to be related situations involving fraud, and/or situations involving non-automated (i.e., paper-based) record systems. .

6. Methods to reduce provider burden and maintain integrity and efficiency of oversight process

Since VITL, as the state's REC, will be engaged with many if not all providers as they initiate EHR technology, and since VITL is authorized to validate Meaningful Use of EHR technology, we see opportunities to reduce provider burden by anticipating administrative, oversight and audit needs in the earlier stages of EHR rollout. Implementation procedures that capture appropriate proof of certified EHR technology, early assistance with the capture and reporting of patient volume data, and early verification of appropriate clinical data capture will all ease the overall EHRIP process. The stage is set for this to happen, as the VITL project management process follows a standard approach in working with providers on these topics.

7. Where program integrity operations are located within the State Medicaid Agency, and how responsibility for EHRIP is allocated

DVHA has a Program Integrity Unit in its organization which will have primary responsibility for oversight and auditing of the EHRIP. The Division of Health Care Reform, also located within DVHA will have its own ongoing administrative oversight of the Incentive Program, primarily to monitor progress against benchmarks, but also to manage administrative control. This will largely be accomplished through working relationships with the Blueprint for Health and the VITL HIE and REC operations. DVHA also has a data unit which can generate analyses and reports related to the conduct of the EHRIP.

SECTION E: Vermont's HIT Roadmap

V. State's HIT Roadmap and Annual Measurable Targets Tied to Goals:

In this section of the SMHP we describe Vermont's HIT Roadmap, from a five year perspective. Topics included in this section are:

1. Graphical and narrative pathway to show the As-Is, To-Be (5 Year), and plans to get there
2. Expectations for provider EHR technology adoption over time: annual benchmarks by provider type
3. Annual benchmarks for each of DVHA's goals that will serve as clearly measurable indicators of progress along this scenario
4. Annual benchmarks for audit and oversight activities

These items are as specified in the SMHP template provided by CMS. This section will summarize much of the information in the preceding sections of the plan. Vermont is building on healthcare reform activities begun with the initiation of the Blueprint for Health.

1. Graphical and narrative pathway to show the As-Is, To-Be (5 year), and plans to get there

One depiction of Vermont's As-Is landscape, focused primarily on a stakeholder perspective, where the stakeholders depicted are the users, insurers, providers and State-delivery services, is depicted in Figure 13 below:

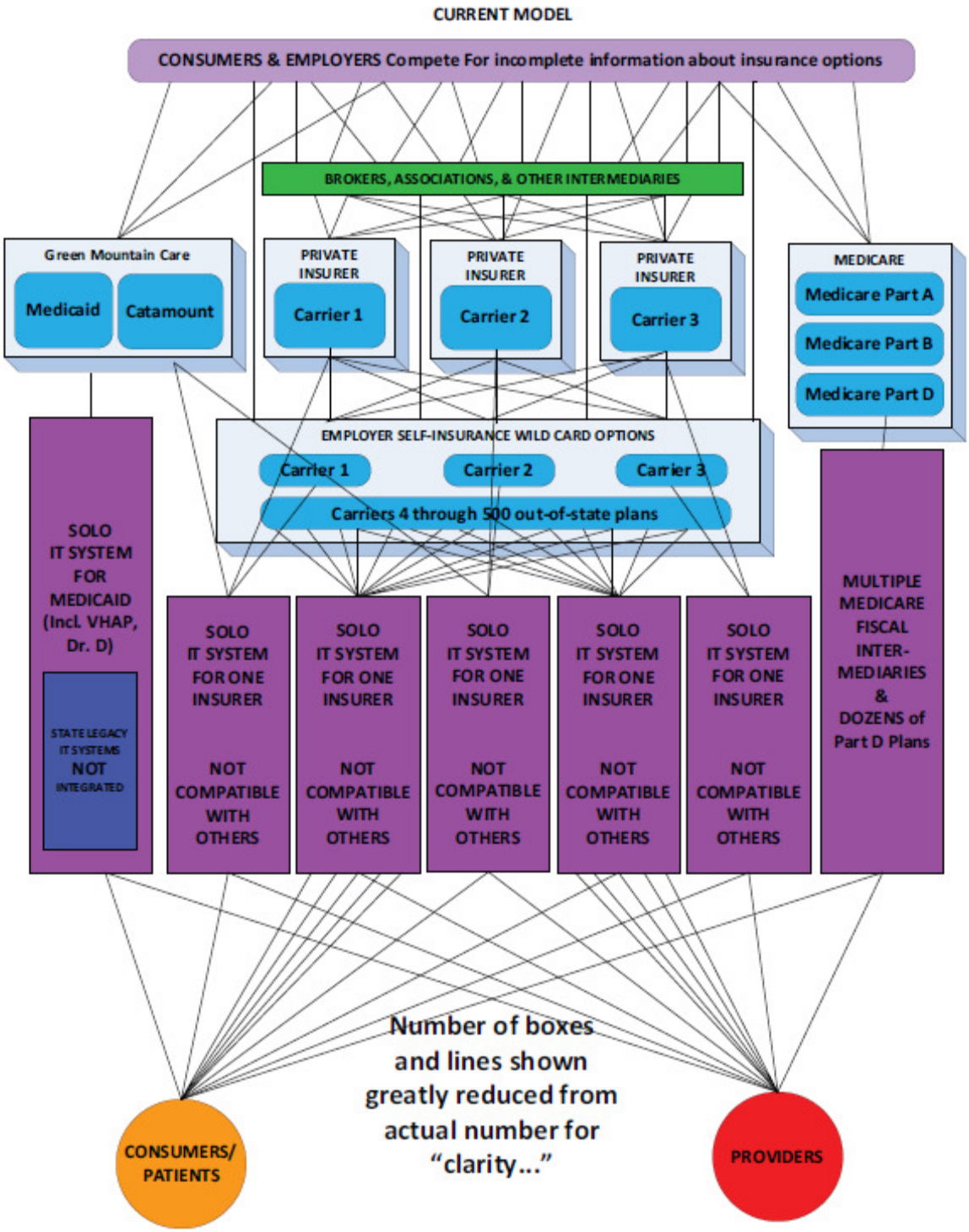


Figure 13: Diagram of Vermont's As-Is landscape, focused primarily on a stakeholder perspective, where the stakeholders depicted are the users, insurers, providers and State-delivery services

From an HIT perspective, Patient-Consumers interact, either directly or through processes involving paper forms and customer service representatives, with a variety of one-off systems that are a part of their health care delivery workflow. These systems include multi-provider record systems (primary care, specialty, urgent care and hospital paper-based, fully electronic or hybrid – paper health records/electronic billing), private insurance carrier systems, employer plans, a variety of Medicare providers, insurance brokers, and the State Medicaid healthcare offerings of which Vermont has several under the Green Mountain Care umbrella.

Within the State Medicaid service delivery spectrum, there are aged stand-alone systems for eligibility and enrollment, for provider registration and administration, and for claims and payment processing. The two primary systems in Vermont are the ACCESS system (eligibility and enrollment) and the MMIS (provider, claims and billing). These systems are mainframe based, now decades old, with an isolated stack of hardware, software, and databases. What data integration occurs is second-hand, through the mechanism of a data warehouse where the data serves as a sound basis for reporting but not for integrated real-time service delivery.

As is implied in that brief summary of the ACCESS and MMIS systems, the IT architecture is best characterized as an array of data and application silos.

However, there is a great deal of encouraging change that has already occurred to initiate a transformation of this view of the As-Is landscape, and many of the elements of change are currently being implemented or will be in an implementation mode soon. In other words, the ***To-Be*** is already ***Becoming***. These elements include:

- State legislative action that has provided funding, goals, benchmarks and specific structure for improved health care delivery
- Substantial though still evolving governance structure to guide the multiplicity of efforts underway
- Establishment of an HIE with a network (HIEN) and data repository to serve as the transport and warehouses elements of HCR
- Creation of the Blueprint for Health program which embodies the health improvement outcomes to be derived from the application of HIT, stimulates the adoption of EHRs and use of the HIE and repository, and is thus in direct parallel and alignment with the State Medicaid Agency's efforts to capture the benefits offered through the HITECH Act
- Through the Blueprint for Health, and anticipating the benefits of EHR adoption, we have coordinated initiatives for Public Health, Medical Health/Behavioral Health/Substance Abuse, Home Care, Long Term Care, and the State's CHIP and CHIPRA programs
- Commitment and participation by a large stakeholder community, including other state agencies and departments as well as other associations and agencies involved in the overall health care delivery spectrum
- Technology transformation that is planned and in many instances moving quickly to purchase and implementation. This includes:
    i. A MITA assessment
    ii. SOA-oriented Core Components project to establish the basis of a MITA compatible architecture for the future of HIT systems in Vermont
    iii. Medicaid Enterprise Solution (MES) to replace the existing MMIS – currently a posted RFP with responses due in February, 2011

iv. Vermont Integrated Eligibility Workflow System (VIEWS) to replace the existing ACCESS eligibility and enrollment system – RFP expected to be posted in January, 2011
v. The development of a Provider Index project to resolve this challenging piece of the resource side of health care delivery

- Steady progress along the path to pursuing the State's agenda with respect to both the ARRA/HITECH and PPACA Acts:
  i. The establishment of an HIT Coordinator within the same department that administers the State Medicaid Agency
  ii. An approved Vermont HIT Plan
  iii. An approved PAPD for the HITECH Act work
  iv. This SMHP as presented
  v. An Accompanying IAPD for HIT
  vi. Vermont's participation in the multi-state MAPIR project for provider EHR enrollment and attestation
  vii. The establishment of a State REC to promote EHR adoption and implementation
  viii. Vermont's receipt of a planning grant for an Insurance Exchange related to PPACA
  ix. Vermont's participation in a grant application for a New England based innovation solution to core components of an Insurance Exchange
- Awareness and engagement of the substantive HIT ecosystem issues of standardization (HL7; NIST), privacy and security.

Figure 14, which follows, depicts a high level block diagram depicting the intended transformation from the current state as depicted in Figure 13 above. Figure 14 is intended to depict a Single System approach to coverage, administration, and delivery of health services with an IT infrastructure to support a Learning Health System. It also affords an opportunity for a common Member Benefit card that could identify consumers across plans or benefit programs as well as for other purposes.

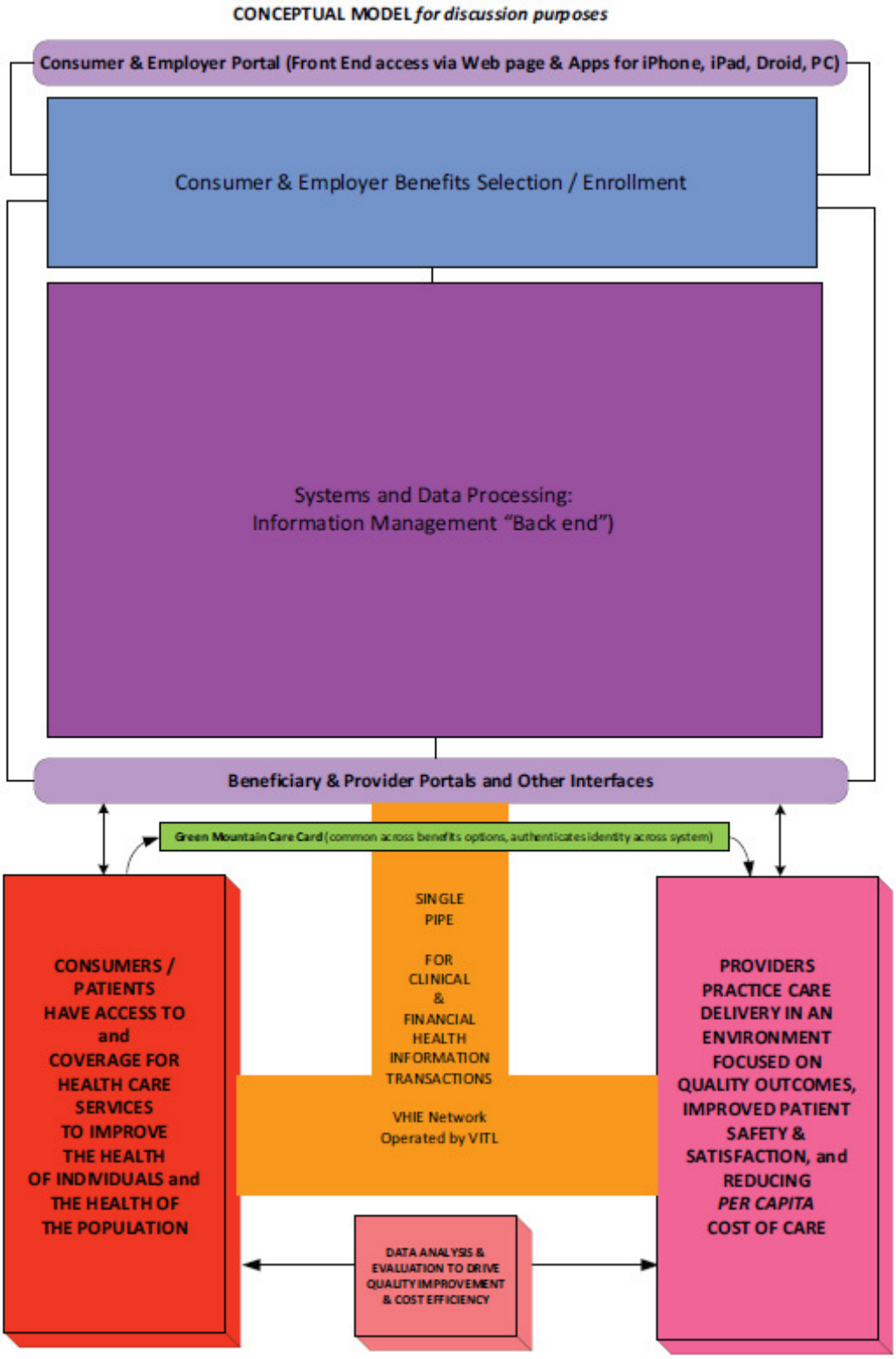


Figure 14: High level block diagram depicting the intended transformation from the current state as depicted in Figure 13

In this model, which describes the transformation vision for health care in Vermont, a portal – available through a variety of enabling fixed and mobile platforms – engages patient-consumers and employers in the benefit selection, enrollment, and patient health information management functionality. In Vermont, this would be the VIEWS system and the Insurance Exchange. The systems and architecture supporting this outward-facing portal are those described in the To-Be portion of this plan and listed above: a MITA compliant architectural platform supporting new systems for eligibility, enrollment, insurance choice and selection, claims and billing administration.

A second portal, or more accurately a separate area of the portal, interfaces with Providers, Beneficiaries, and additional systems. A single pipeline and data repository serve to focus the essential patient information and clinical data to a common exchange repository which supports the messaging infrastructure to insure that health care information is available when and where it is needed. The existing and planned elements supporting this portion of the diagram include the MAPIR system for EHRIP management, Vermont's MES MMIS replacement project, the Blueprint for Health initiative, and the roles and infrastructure provided by VITL – the HIE, the HIEN, and interfaces to the data repository.

As depicted, Patient-Consumers have access to and coverage for health care services to improve the health of individuals and the health of the population. Providers are enabled to practice care delivery in an environment focused on quality outcomes, improved patient safety and satisfaction, and reduced per capita cost of care. The availability of repository data supports data analysis to evaluate and drive both quality improvement and cost efficiency. For Medicaid patients, a Green Mountain Care Card provides authentication and identity across the entire system.

A detailed depiction of the many coordinated streams of HCR activity in Vermont (which are contributing to the reality of the view represented by the previous diagram) is depicted in the following Figure 15: Diagram of The VT Health Reform IT Architecture: Maximizing Federal Resources, Increasing Administrative Systems Efficiencies.

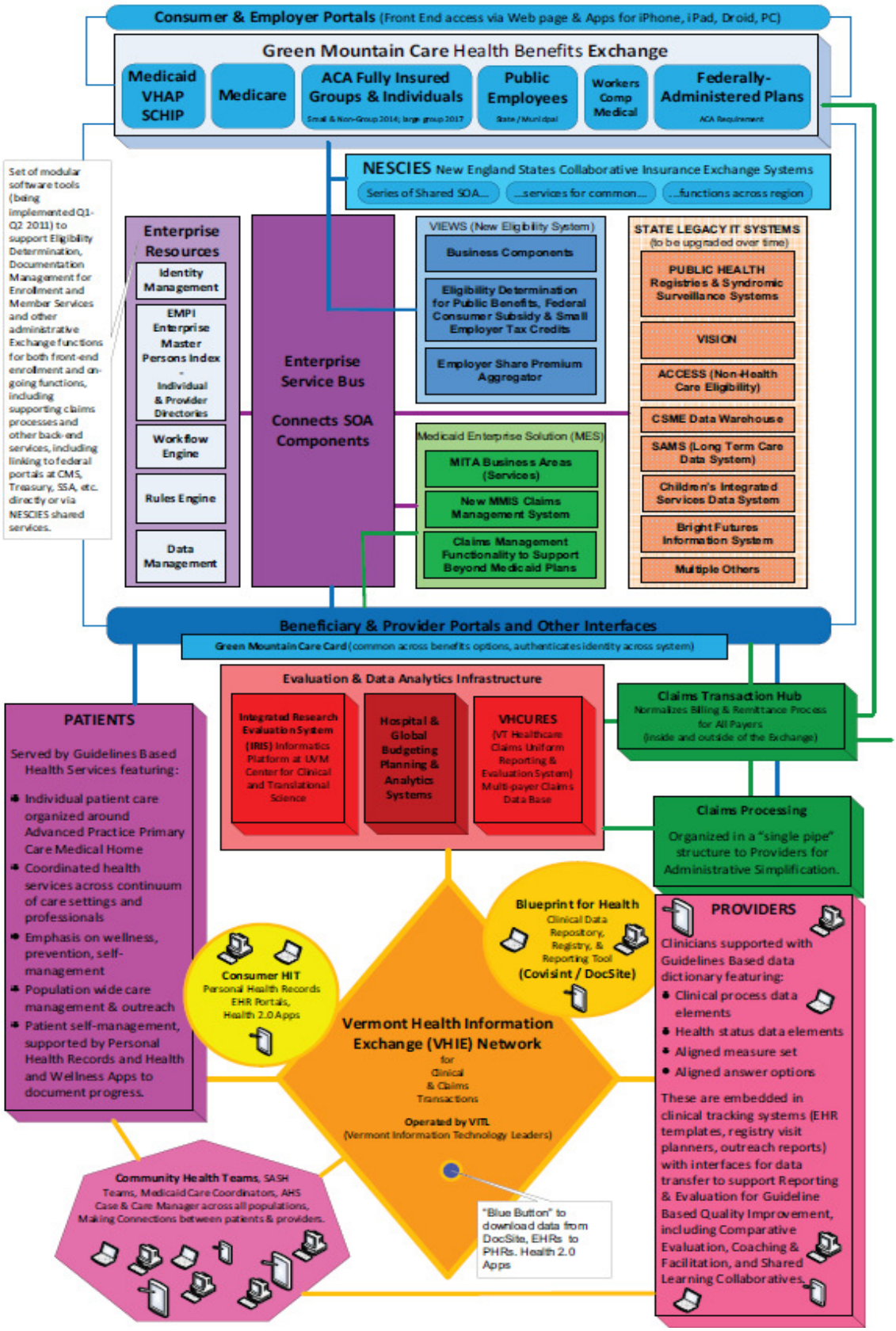


Figure 15: Diagram of The VT Health Reform IT Architecture: Maximizing Federal Resources, Increasing Administrative Systems Efficiencies

This diagram incorporates all of the major initiatives and plans described in detail in the Sections A (As-Is) and B (To-Be) discussion of this document. Taken together, the Sections A and B description of Vermont's landscape includes:

- Technology (SOA architecture, replacement systems for eligibility and claims, a portal for providers to engage EHRIP, an Insurance Exchange)
- Transport and Repository of health information (HIE, HIEN, Repository)
- Programs and initiatives (Blueprint for Health, REC, EHRIP, CHIPRA, Public Health, Mental Health/Behavioral Health/Substance Abuse, Home Health, Long Term Care, and special populations.
- Stakeholders at all levels.

The diagram also includes a proposed "Blue Button" feature that would be readily accessible from multiple areas of the portal and would provide immediate access to a person's Personal Health Record information. .Surrounding layers depicting governance and standards can be imagined for this diagram as well.

A final diagram depicts the portfolio of HCR IT, HIT, and AHS (Agency) IT systems, by thematic components, including:

- Exchange / Eligibility / Enrollment Systems
- Financial Records / Transactions Systems
- Clinical Records Systems
- Evaluation / Reporting Systems
- State Technical Infrastructure.

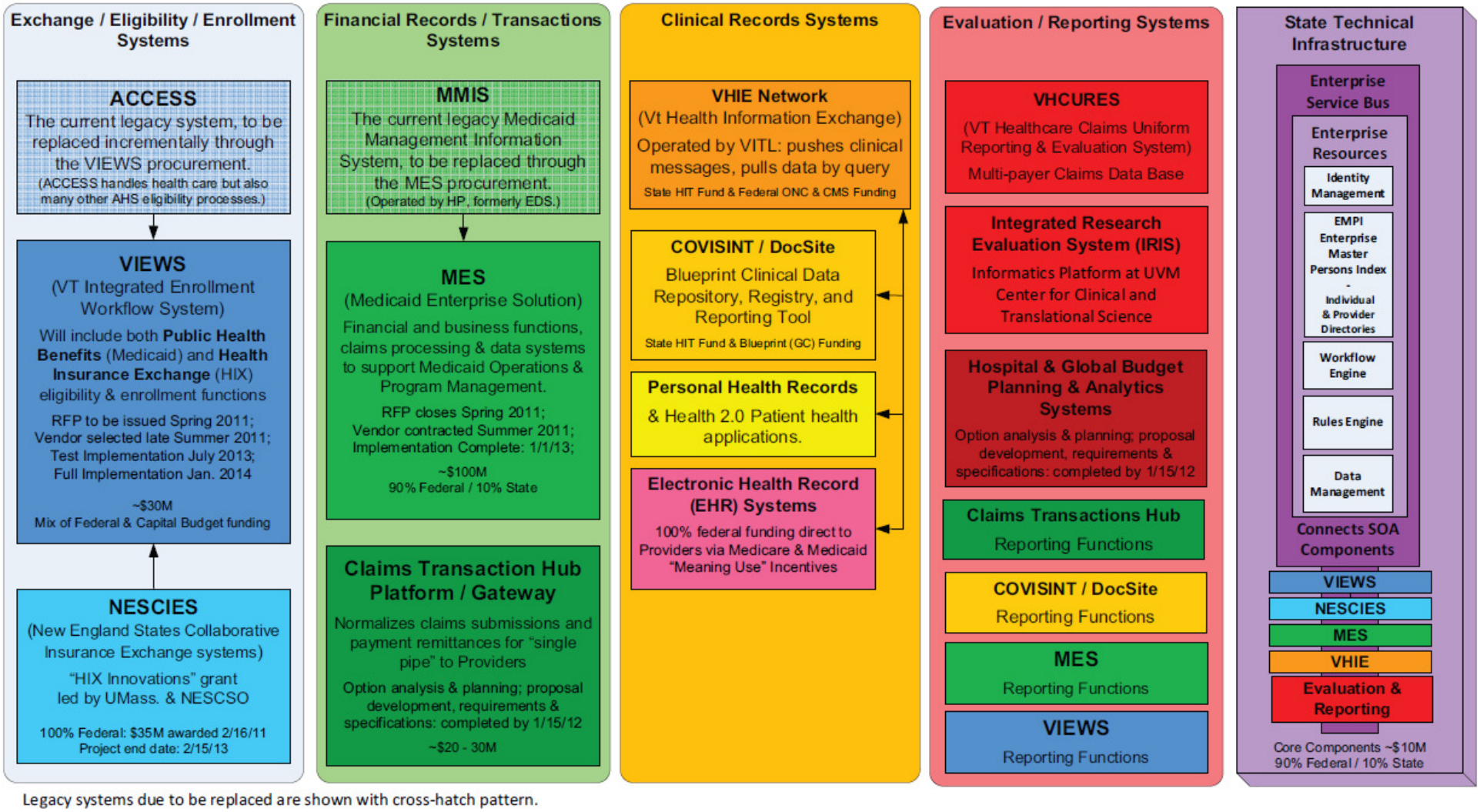


Figure 16: Health Reform Information Technology – Health Information Technology – AHS Information Technology

The diagrams presented here will evolve and be added to for future versions of this SMHP, as will additional refinement of all sections related to To-Be, Administration, Audit and the Roadmap.

The Roadmap requires a timeline and that is depicted in Figure 17 which follows. A narrative discussion of the timeline can be found after the timeline diagram.

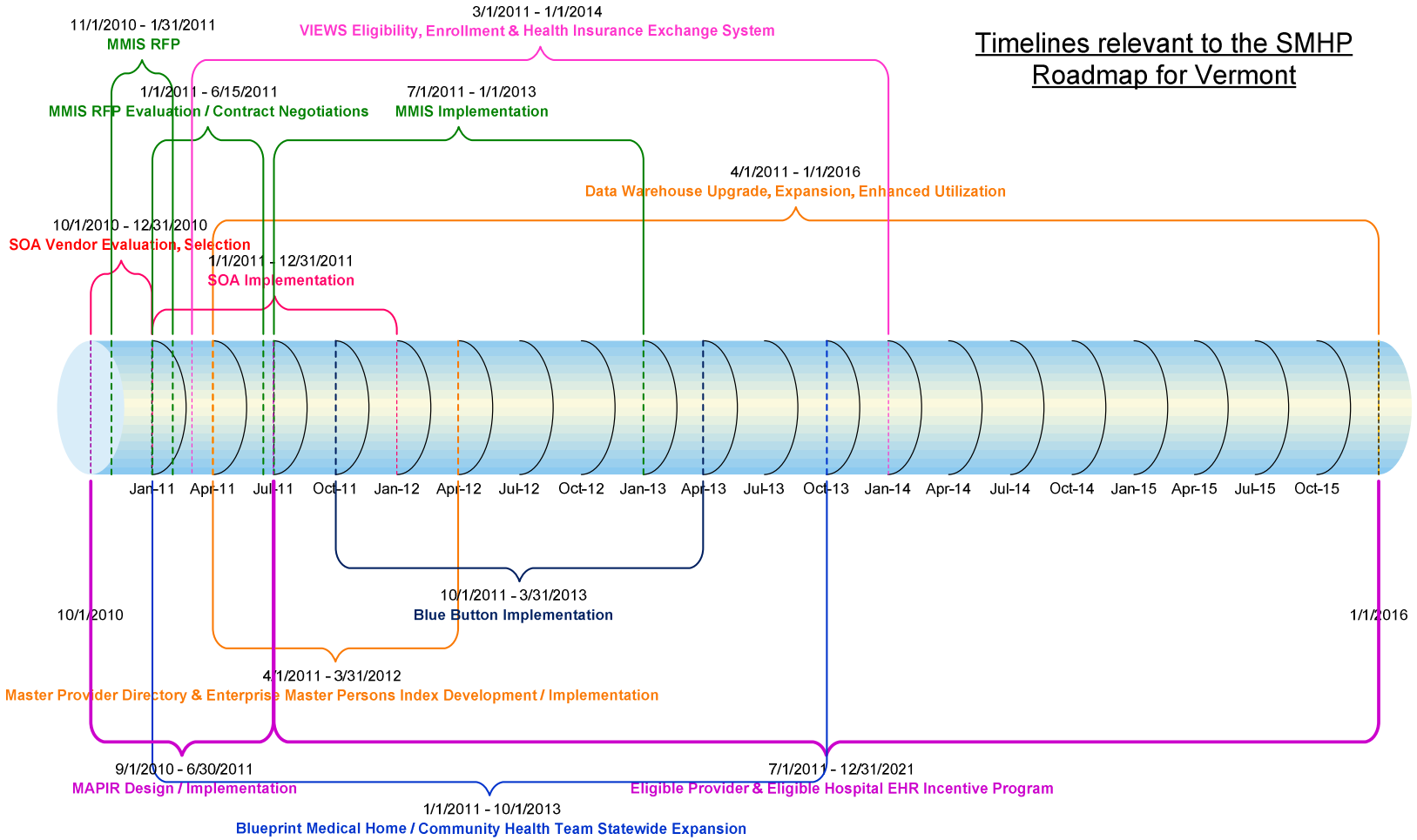


Figure 17: SMHP Roadmap Timeline

The timeline above includes these significant programs and projects:

- The Blueprint for Health, as discussed in earlier sections of this plan, is currently in implementation. By July of 2011 there will be at least two Medical Homes established in each of Vermont's Hospital Service Areas. By October of 2013 all willing providers will be accommodated in the Blueprint with access to and use of the clinical data repository.
- The Vermont EHR Incentive Program will begin accepting claims for incentive payments beginning in October of 2011 (the second quarter of our 2012 State Fiscal Year). These claims and payments will continue through the legislated end of this program availability in December of 2021. Throughout this period VITL, in its role as the REC, will engage the provider and hospital community to identify, acquire and implement certified EHRs and connect them to the HIE and the repository. VITL is also authorized to subsequently validate the meaningful use of these systems.
- The Agency of Human Services project to establish five core components resulting in a SOA-based architecture compatible with the MITA standard is currently in contract negotiation with an identified preferred vendor. The implementation of those components, which will make them available to other major IT projects, will occur throughout calendar year 2011.
- The Multi-state MAPIR project of which Vermont is a participant is already underway. Initial design documents are being reviewed and the two phases of implementation for the core components are scheduled to be available in April and May of 2011 respectively. Vermont's IAPD to support the customization of our portal and existing MMIS system is being prepared. Vermont's subsequent customization activity will then be implemented in the third quarter of 2011.
- A project for the Master Provider Directory is currently being chartered. This will be related to the development of an Enterprise Master Person Index, based on one of the core components in our architectural development. Overall, this directory work will occur between April of 2011 and March of 2012.
- The Vermont Integrated Eligibility and Workflow System (VIEWS) is in the process of RFP development now. This is an extensive undertaking and will replace most of the functionality of our current eligibility and enrollment system called ACCESS. Overall, this work will occur between June of 2011 and the end of 2013.
- The Medicaid Enterprise Solution, an MMIS replacement with enhanced functionality, has gone through the response period and submitted proposals are now being reviewed. Due to both the scale and scope of this project we anticipate an extended period for proposal reviews, site visits, and contract negotiation culminating in a completed contract and start of implementation in August of 2011. We currently hold an aggressive schedule of completing this replacement by January of 2013, but await the review of proposals to determine the feasibility of that schedule.
- Finally, but significantly, the State's main health care related data warehouse, the Central Source for Measurement and Evaluation (CSME), will be undergoing a multi-year process of upgrade, expansion and enhanced utilization between April of 2011 and the end of 2015.

Without going into the details, there are clear dependencies surrounding much of the work and program progress identified in the roadmap's timeline. Our consideration of and planning for these dependencies will be fully discussed in supporting IAPDs as we submit the more detailed plans for this work.

2. Expectations for provider EHR technology adoption over time: annual benchmarks by provider type

We have considered the CMS adoption scenarios described in the Final Rule and think that adoption rates in Vermont will exceed the Average CMS projected adoption percentage, if not approach the High estimated values. Our reason for this optimism is twofold: Vermont has expanded Medicaid coverage so the percentage of EPs meeting the patient volume thresholds should be higher in Vermont than the CMS estimated average; and, since the Blueprint for Health has incentives of its own tied to EHR adoption there is additional incentive for providers to acquire EHR systems. We anticipate a much greater penetration of EHR technology overall than would apply to just the qualifying Medicaid providers.

Current first year estimated adoption by professionals is currently estimated to be between 31 and 47% of those meeting the patient volume threshold, which is estimated to be 30% of all such providers. Longer term estimates, including a breakdown by provider type, remain to be developed and will be presented in subsequent versions of the SMHP. However, our current second and third year projections are for 45-66% and 54-77% adoption respectively for those meeting the patient volume threshold (these are cumulative projections).

We anticipate full participation from Vermont hospitals over time, and that the hospitals will be seeking maximum incentive payment percentages due to the challenges they all face with budgets. Thus, we expect the majority of all incentive payments for hospitals to occur during the first three years of the program, beginning in July of 2011. Again, more detailed projections will be forthcoming in future versions of the SMHP.

3. Annual benchmarks for each of DVHA's goals that will serve as clearly measurable indicators of progress along this scenario

The Department of Vermont Health Access and the Division of Health Care Reform will be able to provide detailed reporting of progress of the programs and initiatives as depicted in the roadmap timeline above. These reports of system and program progress will be augmented by the increasing availability and utilization of clinical data in the repository. Currently we have general progress benchmarks in place with the repository vendor to develop additional modules of repository use on a negotiated schedule. While some of the early enhancements are identified, the work occurring in later years is yet to be specified.

Over time we will report the benchmark availability of key clinical measures related to public health, as outlined in the Blueprint for Health. Finally, beginning in 2015, we should be able to report on health improvement progress with information based on the implementations described in this plan.
A more detailed description of these benchmarks will be available in a future iteration of this plan.

4. Annual benchmarks for audit and oversight activities

While we have described many of the plans for administrative oversight and audit of the EHRIP in Sections C and D of this document, the detailed plans and procedures will be completed during the first three quarters of 2011, prior to making incentive payments available and considering EHRIP claims. Annual benchmarks will be developed as part of that planning and procedure development work.